Industrial
Hydraulics

**Electric Drives
and Controls**

Linear Motion and
Assembly Technologies

Pneumatics

Service
Automation

Mobile
Hydraulics

Rexroth IndraWorks
I-Remote
Remote Control Software

R911310612
Edition 01

Application Manual

Title	Rexroth IndraWorks
	I-Remote
	Remote Control Software
Type of Documentation	Application Manual
Document Typecode	DOK-IWORKS-IREMOTE*V01-AW01-EN-P
Internal File Reference	Document Number 120-2700-B301-01/EN

Purpose of Documentation   With the automation platform IndraWorks, a system prepared for remote control is delivered to which the Rexroth remote control software I-Remote can be installed with a low effort.

This documentation refers to the customer who requires a fast installation overview for I-Remote and also to the experienced system administrator who requires a technical overview of mechanism, installation, and configuration of the single system components.

Record of Revisions

Description	Release Date	Notes
120-2700-B301-01/EN	03.2005	First issue

Validity   The specified data is for product description purposes only and may not be deemed to be guaranteed unless expressly confirmed in the contract. All rights are reserved with respect to the content of this documentation and the availability of the product.

Note   This document has been printed on chlorine-free bleached paper.

Contents

1   Preface

A system prepared for remote control is delivered with the automation platform IndraWorks. This allows you to install the Rexroth remote control Software I-Remote with a minimum of effort. All system components for remote data transfer (RDT), such as RAS or a standard modem, are already preinstalled on the system.

This manual is aimed both at customers who require a fast overview of the installation of I-Remote as well as experienced system administrators who require a technical overview of the method of operation, installation and configuration of the individual system components.

Depending on the information required by the user, you should proceed as follows when working with this manual:

I-Remote Installation on a pre-configured Rexroth Control

Please read the following chapters:

Chapter: 2 Introduction

Chapter: 3 System Requirements

Chapter: 4 I-Remote Installation

Chapter: 5 Running a Remote Session

Chapter: 6 Behavior during a Remote Session / Notes on Possible Dangers

I-Remote Installation on a not pre-configured Client PC

Please read the following chapters:

Chapter: 2 Introduction

Chapter: 3 System Requirements

Chapter: 7 System Overview

Chapter: 8 Installing a Modem

Chapter: 9 Installing a Remote Communications Network (RAS)

Chapter: 4 I-Remote Installation

Chapter: 5 Running a Remote Session

Chapter: 6 Behavior during a Remote Session / Notes on Possible Dangers

I-Remote Installation on a Service PC

Please read the following chapters:

Chapter: 2 Introduction

Chapter: 3 System Requirements

Chapter: 7 System Overview

Chapter: 8 Installing a Modem

Chapter: 9 Installing a Remote Communications Network (RAS)

Chapter: 4 I-Remote Installation

Chapter: 5 Running a Remote Session

Chapter: 6 Behavior during a Remote Session / Notes on Possible Dangers

Rexroth
Bosch Group

2 Introduction

2.1 Overview of I-Remote

New possibilities in modern information and communication technology are causing a change of structure within the industry in the field of customer service.

By using I-Remote, you can access, diagnose and maintain remotely located computers – all from your location at the company. In addition to a substantial reduction in costs, this also results in an improvement in service efficiency; this in turn is of benefit both to manufacturers and to operators.

Using modern communication media such as the Internet together with standardized communication mechanisms, connections can be made worldwide via I-Remote.
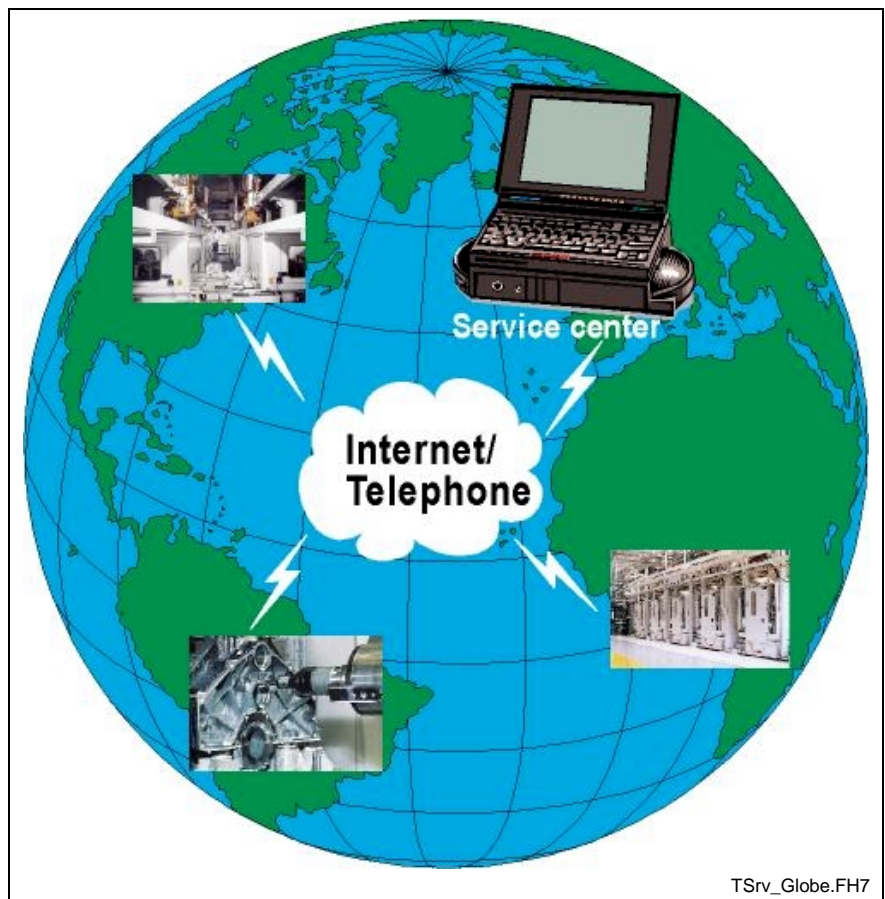

Fig. 2-1:   I-Remote worldwide

Rexroth
Bosch Group

2.2   I-Remote Features

There is a powerful program for the remote control of PC systems for the automation platform IndraWorks. The system has the following features

- integrated WEB server on the control unit
- remote control via WEB browser per ActiveX Control (no client installation required!)
- high speed by means of data compression
- Delta file transfer with split screen and drag-and-drop
- file synchronization
- system snapshot
- audio support
- record/playback function for logging
- powerful script language for automated processes
- configurable security levels

2.3   Definition of Terms

I-Remote   The software that is used within the automation platform IndraWorks for remote controlling of PC systems.

Service-PC   The PC from which the connection to the control unit to be monitored is established is termed the service PC. The screen content of the control unit is displayed in parallel on the screen of the service PC during a remote session. The control unit can be monitored and/or operated from the service PC.

Client PC / Control PC   The PC, that can be remote-controlled resp. observed by a service PC, is referred to as Client PC resp. Control PC.

Modem   *Mo*dulator/*Dem*odulator
Communication device for transmitting information via the telephone network. A modem converts (modulates) digital data into analog signals for transmission via telephone lines. These signals are reconverted (demodulated) into digital signals at the other end of the line. Modems can transmit data with various speeds or transmission rates.

LAN   *L*ocal *A*rea *N*etwork
A spatially limited network. In practice, spatially limited usually means a building or part of a building (floor) that is under the control of the owner.

WAN   *W*ide *A*rea *N*etwork
WANs consist of several LANs that are connected to each other via remote lines. Such connections can be established, e.g. by dial-up connections, ISDN, X.25 or a great variety of dedicated lines.

DHCP Server   *D*ynamic *H*ost *C*onfiguration *P*rotocol *Server*
A protocol for dynamically assigning IP addresses within the LAN. Each client computer within the network is configured in such a way that it draws its IP address from the DHCP server when the system starts up. Furthermore, additional address information (IP address of the WINS server, etc.) is distributed to the clients by the DHCP server.

ISDN
: *Integrated Services Digital Network*
While conventional telephone networks are based on analog data transmission, the ISDN standard is widely available in many countries in Europe. ISDN is based on digital data transmission and permits a higher data transmission rate of 64 kBaud, as well as various special services.

RDC Network
: *Remote Data Communication Network*
Refers to a modem connection established between two computers via the telephone network.

RAS
: *Remote Access Service*
A term used by Microsoft for the provision of dial-up services within Windows operating systems. The NetBEUI, IPX/SPX and TCP/IP protocols are supported.

TCP/IP Protocol
: *Transmission Control Protocol/Internet Protocol*
A protocol family originally developed for UNIX; now available for almost all operating systems. The entire Internet is based on TCP/IP. Each computer in the network receives a unique address – the IP address. Important TCP/IP application protocols in the Internet are HTTP, FTP and DNS, among others.

IPX/SPX Protocol
: *Internetwork Packet Exchange/Sequenced Packet Exchange*
A data transmission standard defined by Novell for the relaying and transport layer of the ISO/OSI communication model. IPX/SPX is the standard Novell protocol and is not compatible to TCP/IP.

NetBIOS
: *Network Basic Input/Output System*
NetBIOS was developed in 1984 by IBM and is a programming interface for network programming. NetBIOS functions within the layer of the session and communicates at the transport level with NetBEUI or TCP.

NetBEUI Protocol
: *NetBIOS Extended User Interface*
A fast, nonrouting transport protocol developed by IBM for small networks. NetBEUI communicates with NETBIOS at the session level.

2.4 Exclusions

The statements made in this description are purely for information purposes. They have been made to the best of our current knowledge. However, we cannot accept any liability arising from them. Furthermore, we explicitly point out that at the current state of technology it is not possible to exclude errors in production under all application conditions, especially regarding software programs. Especially when used in combination with other products, particularly those from third-party manufacturers where we have had no influence on the design, situations could arise that result in the faulty functioning of individual products or of a system.

Rexroth
Bosch Group

3   System Requirements

3.1   Hardware

Client PC / Service PC

The following requirements must be fulfilled by PCs (client PC and service PC at the customer service):

- IBM PC/AT or compatible system; recommended ≥ 80486DX2/66

- Operating system > NT 4.0 (Intel) with Service Pack 5

- min. RAM 32 MB

- min. free space on hard drive 16 MB

- CD-ROM drive for installing the software

- a free V24/RS232 (COM) interface for connecting an external modem

- or an ISDN board

- I-Remote within a LAN: The computer must be connected to the LAN by a network adapter. To select or configure the network adapter, please contact your network administrator. The NetBEUI, IPX/SPX or TCP/IP protocol is supported as the transmission protocol.

Modem

A modem allows the communication between client PC and service PC via a telephone line. One modem is required by each participant during a remote session. The modem must be suitable for the particular operating system.

Analog Modem   A *'Hayes compatible'* modem with a transmission speed of 56 kbaud is recommended. Such a modem is laid out for the Hayes command set, which represents the currently valid communication standard for modems.

ISDN   ISDN data transmission is either via an external ISDN adapter connected to the serial port or via an internal ISDN board slotted into a free ISA or PCI slot on the main board of the PC.

Combi Device for Analog and ISDN Operation   If both analog and digital data is to be transmitted, we recommend a combi device consisting of an analog modem and an ISDN adapter with an automatic switchover.

Note: The same type of modem **must** be used on both ends of the transmission path (analog/analog or ISDN/ISDN).

The decision as to which type of modem is to be used also depends on the final location of the system or the machine. Not only power supplies and supply voltages can differ from country to country. In addition, not all standards, such as ISDN, are supported throughout the world. The local conditions **must therefore always be checked** by the machine manufacturer.

Rexroth
Bosch Group

Cable Connection

PC – Modem

To connect a PC to an external modem, you require a V24/RS232 standard null modem cable. The length of this connection must not exceed 15 meters, as defined by the V24/RS232 specification.

If you are using an internal modem instead of an external modem, then this connection is not required, since the modem is slotted directly onto the ISA/PCI bus of the PC and communicates with the PC via this connection.

Note:	Additional information is contained in the documentation of the modem manufacturer.

Modem – Telephone System

A telephone cable is required to connect to the analog telephone network (in Germany, normally equipped with a plug for a TAE6 outlet, coding 'N') and an RJ45 plug for connecting to the S_0 bus of the ISDN network.
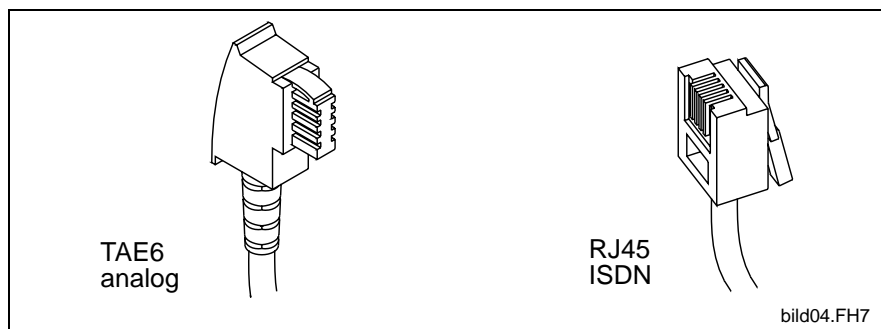

TAE6
analog

RJ45
ISDN

bild04.FH7

Fig. 3-1:   Telephone connection for analog network and for ISDN

Since the connection technology of telephone systems is vastly different from country to country, the exact conditions must be checked in advance and the required components should be gathered tougher at the final place of installation.

Note:	Additional information is contained in the documentation of the modem manufacturer.

3.2   Software

To run a remote session between a client PC and a service PC, you require NetSupport Manager® Remote Control Software, Version V9.0.

All parts of this software are subject to a license contract and may only be used in conjunction with the license agreement.

The NetSupport Manager® software package consists of two main applications:

- The **Control** application. The control application is installed on the service PC and allows other PCs to be monitored and controlled.

- The **Client** application. The client application is installed on the client PC and allows a service PC to remotely access this control unit.

When installing and configuring the software, observe the instructions contained in the software manuals (delivered with the product).

Also observe example configurations of the software contained in this manual.

4 I-Remote Installation

4.1 Variants of Installation

There are two variants of Rexroth I-Remote.

Only client PC variant

After successful installation the client PC can be operated by remote control by the service PC. This variant does not allow to operate another PC by remote control by the control PC. The I-Remote installation is part of the automation platform Indraworks and can be activated by purchasing a valid license.

I-Remote full installation variant

The I-Remote full installation is delivered as a separate data carrier. At the installation you can select, whether the PC is to be operated by remote control (Client-PC), whether the PC can operate by remote control (service PC) or whether both should be possible. To activate this variant a valid license is necessary.

Note: Please note, that there are different license conditions for client PC and service PC. I.e. different licenses are necessary for client PC and service PC.

4.2 Installation on a Control PC

During the installation of the automation platform IndraWorks the I-Remote setup is preparatively filed on every control PC.
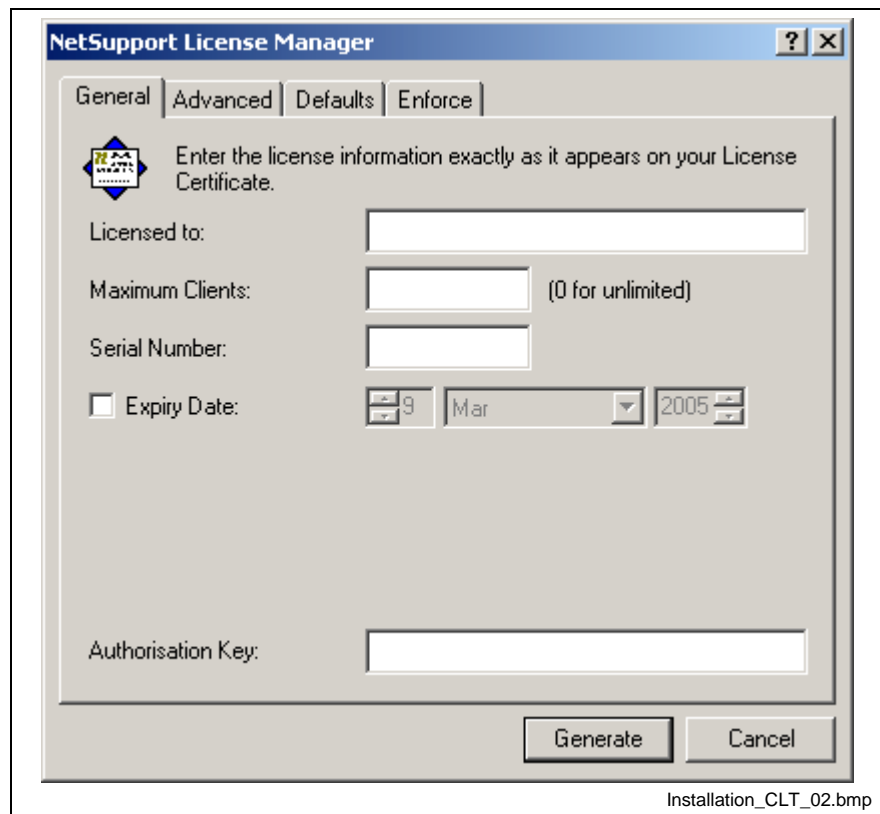
Select in the menu Start-Programs-Rexroth-IndraWorks-I-Remote the entry Install I-Remote

Installation_CLT_01.bmp

Fig. 4-1: Call I-Remote Installation

Select the language and accept the license conditions in the following dialogs. Then enter a destination folder for the installation.

Rexroth
Bosch Group

Enter the license information

Installation_CLT_02.bmp

Fig. 4-2:   Entry of the License information

Enter the license information in the tab "General", that you have obtained at the purchase of IndraWorks I-Remote. The other tabs have not to be changed.

Having entered all data press the button "Generate".

Note:	The information must be entered exactly as given on your license certificate. It is distinguished between small and capital letters.

Press the button "Install"

Installation_CLT_03.bmp

Fig. 4-3:   I-Remote Installation Wizard

Close all open applications now and reboot your computer. The installation of I-Remote is completed.

4.3   Installation on a Service PC

Start the installation program from the installation CD. Select a language and accept the license conditions.

Choose between the installation variant service PC or I-Remote full installation

Installation_CTR_01.bmp
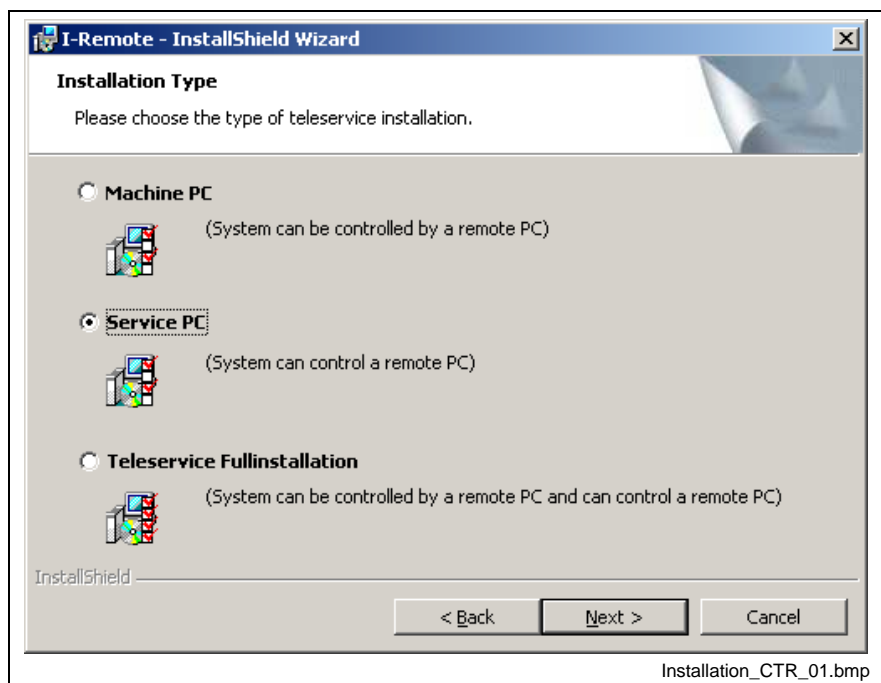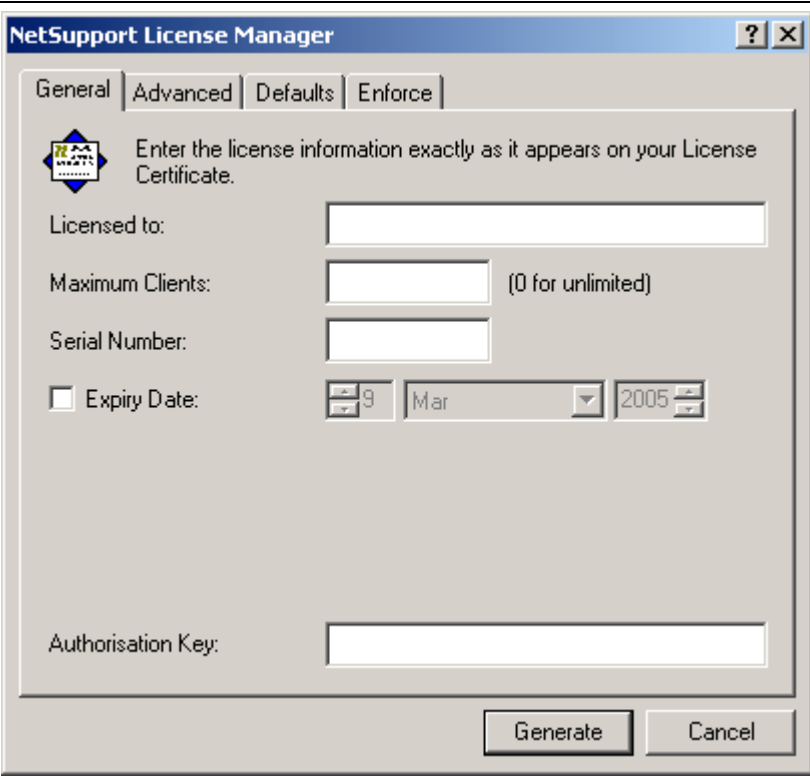
Fig. 4-4:   Selection of the installation variant

Rexroth
Bosch Group

Enter license information

Fig. 4-5:   Entry of the license information

Enter the license information in the tab "General", that you have obtained at the purchase of I-Remote. The other tabs have not to be changed.

Having entered all data press the button "Generate".

Note: The information must be entered exactly as given on your license certificate. It is distinguished between small and capital letters.
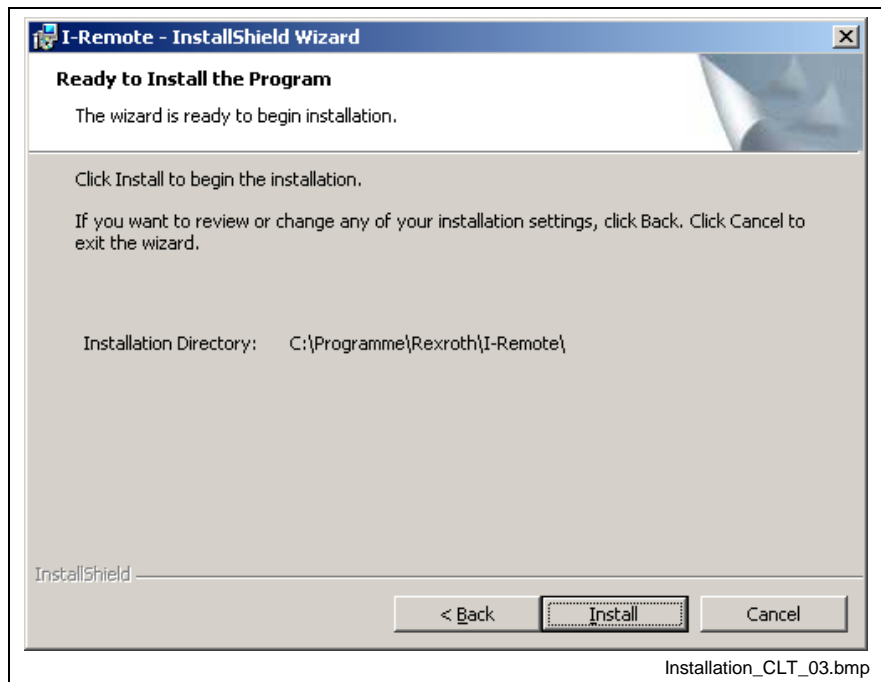
Press the button "Install"
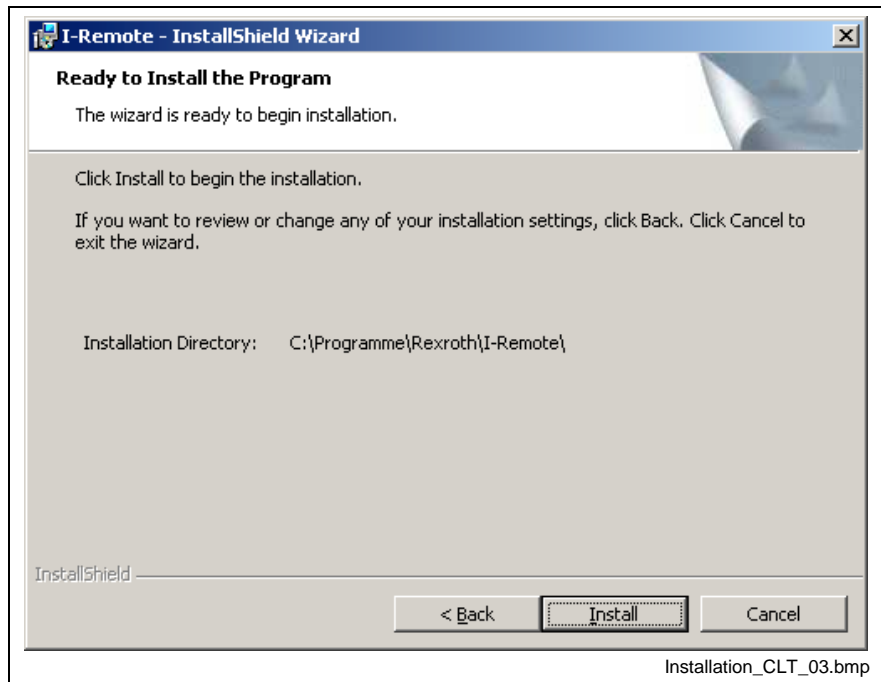
Fig. 4-6:   I-Remote Installation Wizard

Close all open applications now and reboot your computer. The installation of Rexroth I-Remote is completed.

4.4   Adjusting the System Settings

After the I-Remote Software has been installed on your system, all requirements have been fulfilled in order to run a remote session via a local network (LAN).

If the remote session is to be operated between the service PC and the client PCvia a remote connection (e.g. telephone network) then the system must be configured accordingly to the remote communication settings (RAS) .

Adjusting the remote communication settings on the service PC

Configure the RAS service for the control unit to be dialed up. This is described in Chapter 9 of this manual.

Adjusting the RAS settings on the client PC

Configure the network configuration (DHCP or static address pool) of the RAS server on the control PC and grant the user remote access rights for the remote session. This is described in Chapter 9 of this manual.

Rexroth
Bosch Group

5   Running a Remote Session

5.1   Conditions

Before a remote session can successfully be run, the two computers that are to communicate with each other must be correctly configured.

Connecting Remotely

When running a remote diagnosis via a remote communication network, the following requirements must be met before starting the NetSupport Manager software:

- A modem must be installed on both computers

- The connection to the telephone network via modem must already be established for both computers

- The service PC must be configured as the RAS client and must have a valid telephone book entry for dialing up the RAS server

- The client PC must be configured as the RAS server. The planned call-back must be set on the telephone number of the service PC

- A valid user account, together with all required access rights, must be planned on the RAS server

- Before starting the remote session, the RAS connection between both computers must be already established. To do this, proceed as follows:

  - Start the remote communication network on the service PC from the folder "My Computer". Select the telephone book entry for the control unit to be dialed up and then start dialing.

  - The connection to the RAS server is established; you will be prompted on the service PC to enter your user data.

  - The RAS server then terminates the connection to the service PC and prepares the callback.

  - After callback has been completed, the RAS connection has now been established between the control and the service PC.

- In the following step, you can start the remote session with NetSupport Manager.

Note: If the remote session is to be run within the LAN, then NetSupport Manager can be started immediately. A remote data communication connection is not required for this.

Rexroth
Bosch Group

5.2   Starting a Remote Session

I-Remote via the WEB Interface

If a connection has been made to the control unit via TCP/IP by the service PC, the control unit can also be operated by remote control via a WEB browser (as of Microsoft IE4.0).

No additional software is required on the service PC in this case.

Using the HTTP protocol, enter the IP address of your control system in the browser of your service PC and the corresponding start page **view.htm**. The address must be entered in the following form:

- **http://<IP_address_of_control_system>/view.htm**

or, if your network can resolve names:

- **http://<computer_name_of_control_system>/view.htm**

Note: If you are not able to establish a connection via the WEB interface, please check the proxy server settings of your browser. If necessary, deactivate your proxy server in the browser during the session.

Start Internet Explorer and enter the address and the start page of the control unit. Enter your user ID and password in the security dialog box (the configuration delivered with the system requires the user data of the administrator resp. main user account)

FERNWART_WEB_01.bmp
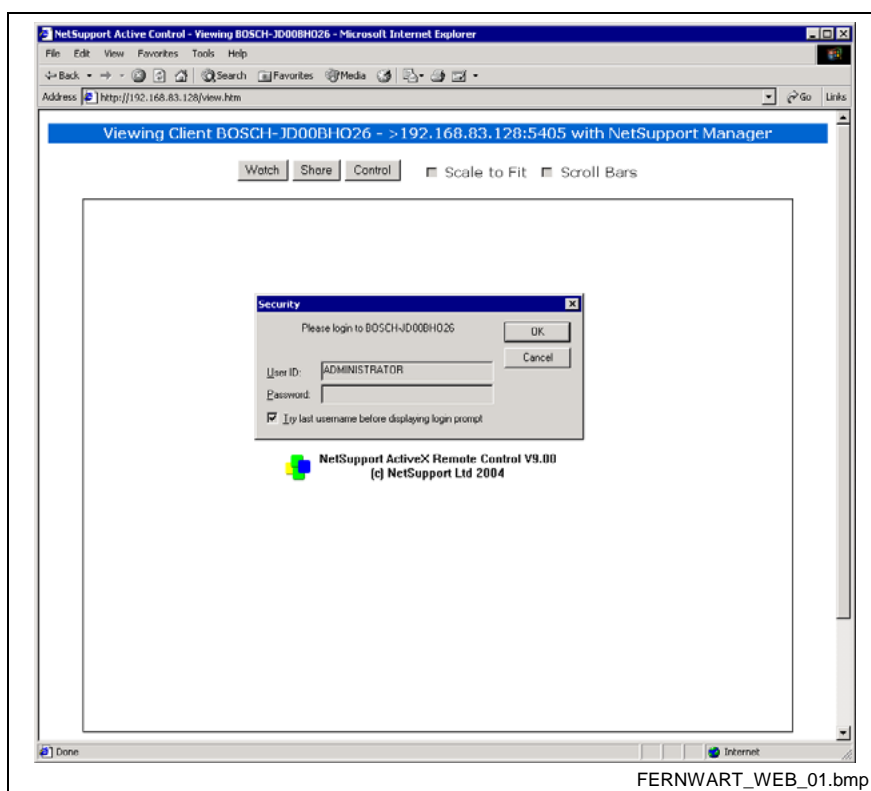
Fig. 5-1:   I-Remote by WEB browser – entering user data

Note: The first time that a remote session is operated via the WEB interface, a dialog box appears informing the user that a 'NetSupport ActiveX Remote Control' must be installed. You need this ActiveX control for remote control using a WEB browser. Therefore, permit installation to be carried out.

Your system now expects the control unit to positively acknowledge the request of the remote session. If required, make the user of the control acknowledge the request positively.

FERNWART_WEB_02.bmp
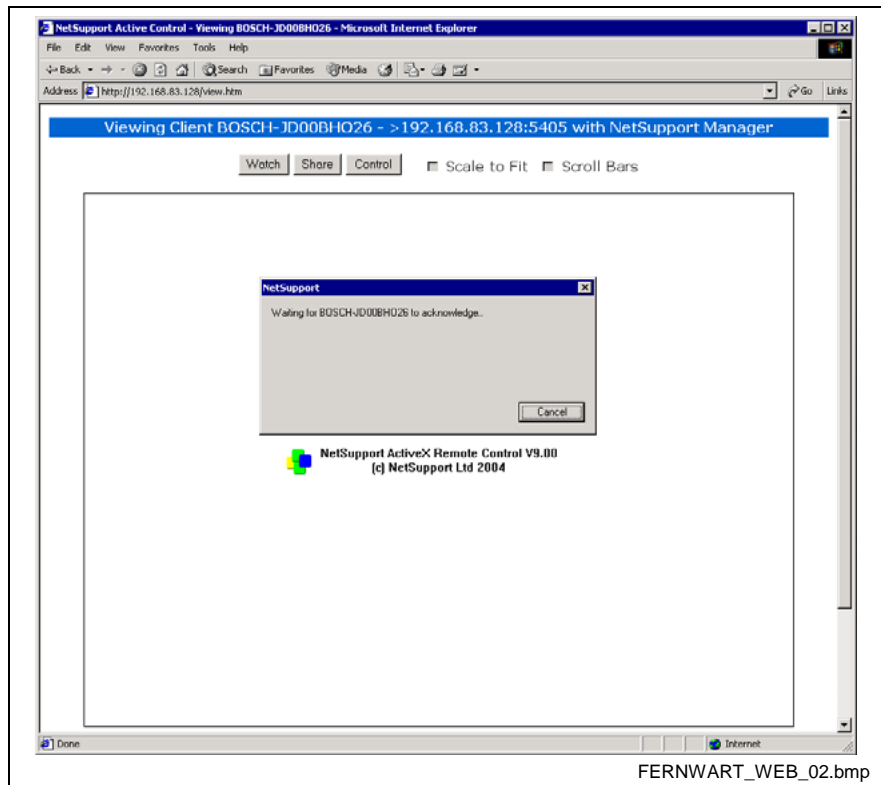
Fig. 5-2:   I-Remote by WEB browser – waiting for acknowledgement

You can see now the GUI of your control unit on the screen. You can operate the system within this screen by remote control using your keyboard and mouse.

FERNWART_WEB_03.bmp
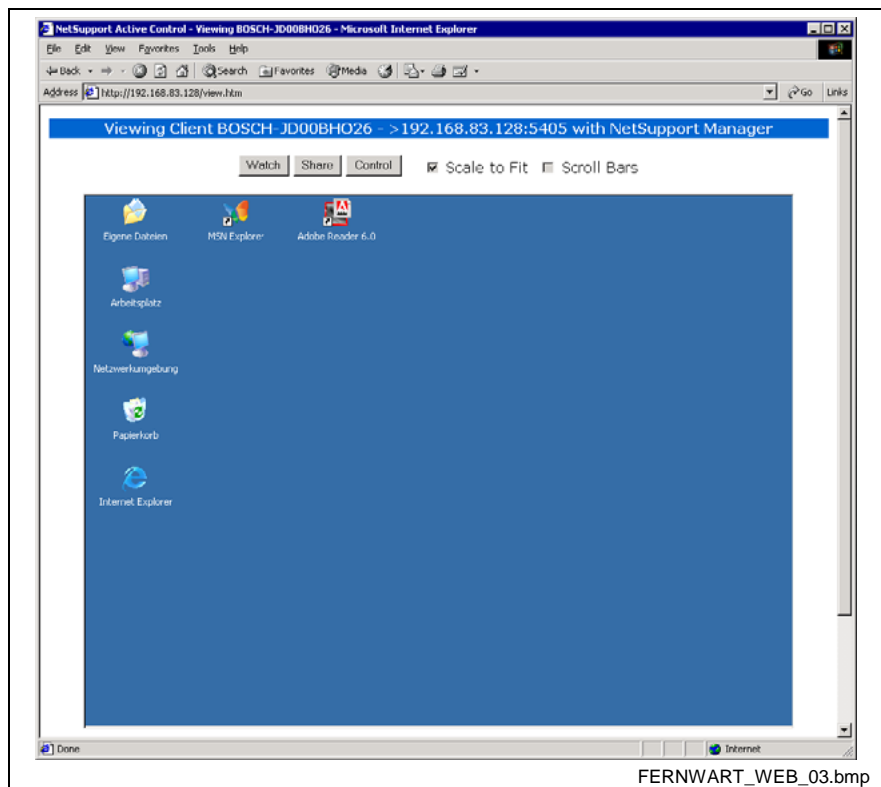
Fig. 5-3:   I-Remote by WEB browser – active session

Rexroth
Bosch Group

I-Remote via NetSupport Control

Start the NetSupportControl software via menu item Start-Programs-Rexroth-I-Remote NetSupport Control

FERNWART_START_01.bmp
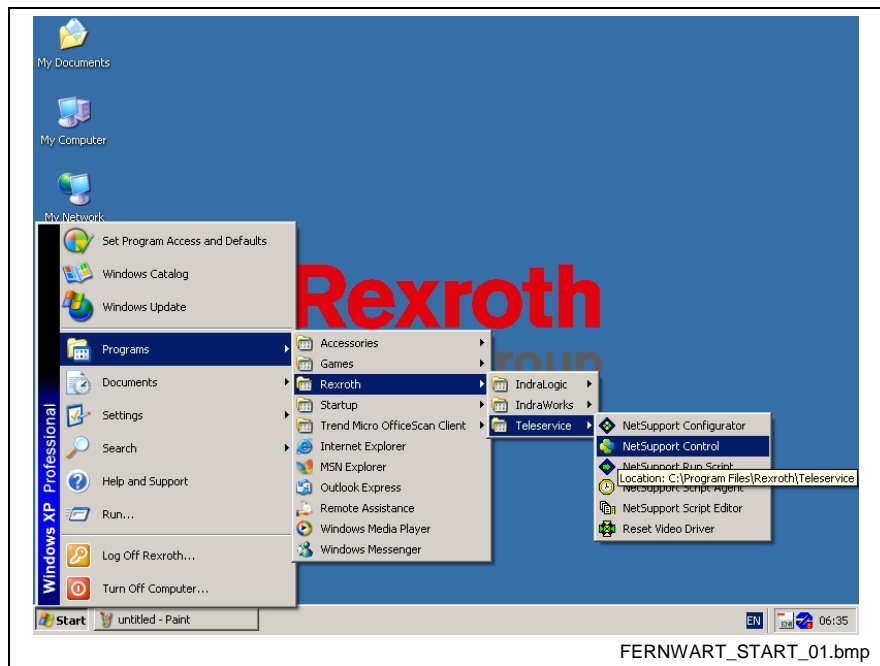
Fig. 5-4:   Starting NetSupport Control

Select the "New Client" option from the Clients directory

FERNWART_START_02.bmp
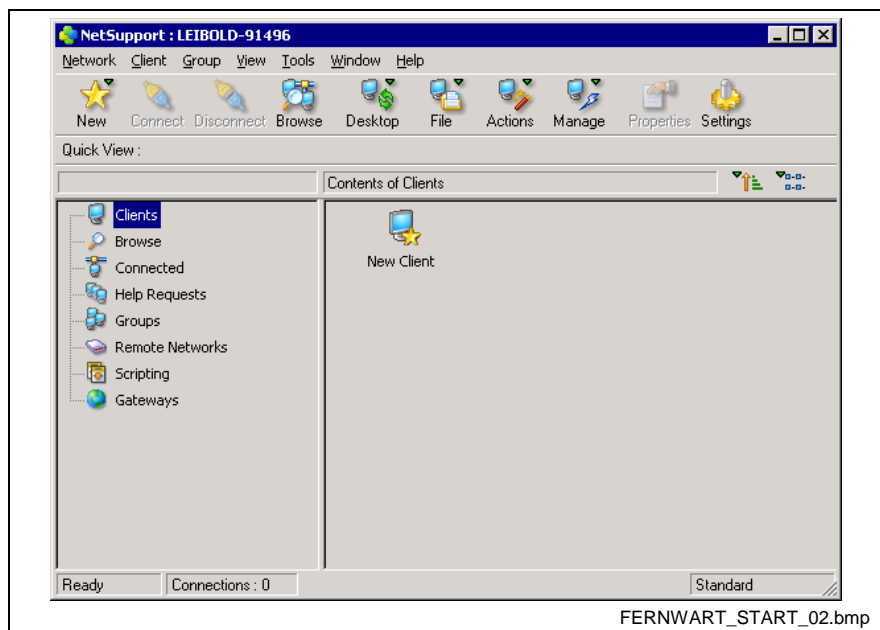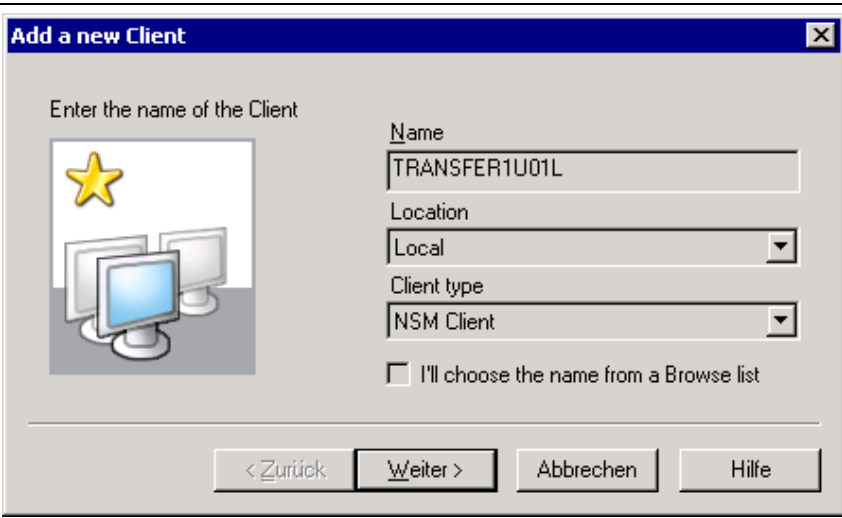
Fig. 5-5:   NetSupportControl

Using the 'New Client' option, enter the address information for the control system to be operated by remote control (to be referred to in the following as 'client').
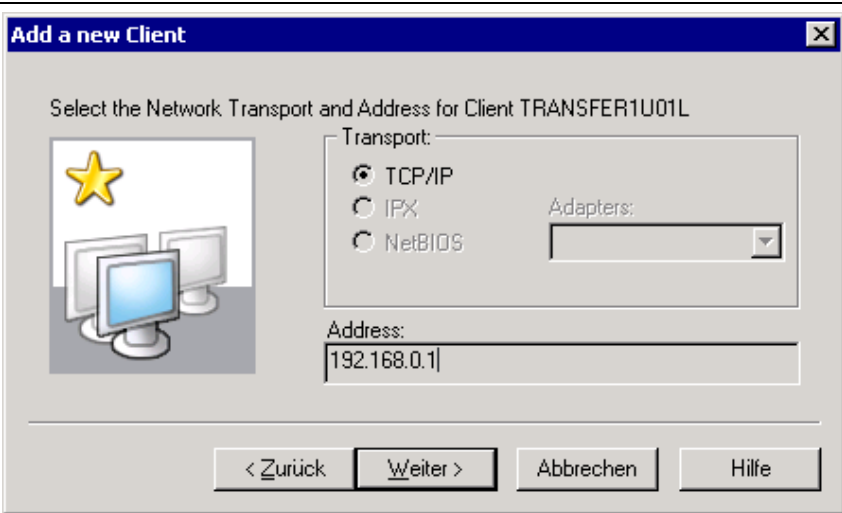
Enter the computer name for the new client and set the storage location to local

FERNWART_START_03.bmp

Fig. 5-6:   Configuration of a client connection

Activate the TCP/IP transport protocol and enter the IP address or the computer name of the control unit

FERNWART_START_04.bmp

Fig. 5-7:   Entering the IP Address of the control unit

Run the IPCONFIG program on the DOS command line on the control system to determine the IP address of the control system.

If you are communicating via a remote data communication connection with the control system, then you can also determine the IP address of the WAN adapter via the RAS server configuration.

Note: When using a DHCP server, the IP address of the control unit may change after expiration of a lease time. In this case, you must correct the IP address on the client configuration in the NetSupport control.

Speak to your network administrator if you want to assign the control unit with a fixed IP address.

Acknowledge with "Finish"

FERNWART_START_05.bmp
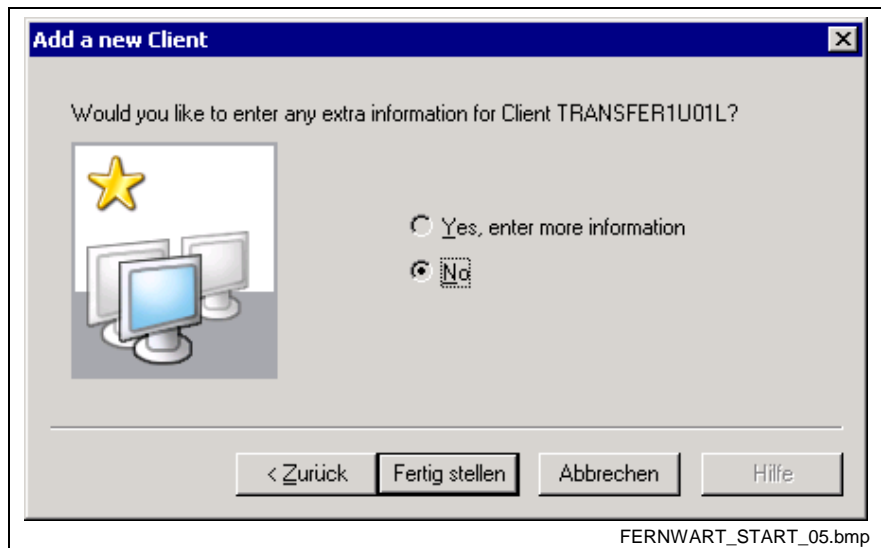
Fig. 5-8:   Finishing client configuration

The new client appears in the overview. Now start the remote session by double click at it

FERNWART_START_06.bmp
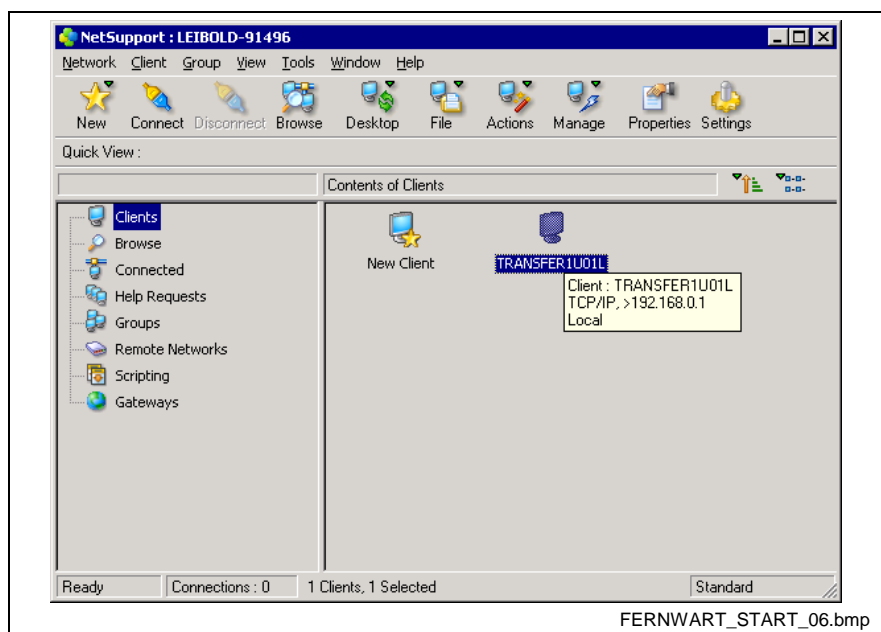
Fig. 5-9:   Selecting connection with control unit TRANSFER1U01L

The connection is established between NetSupport control on the service PC and the NetSupport client on the control unit (TRANSFER1U01L)

FERNWART_START_07.bmp
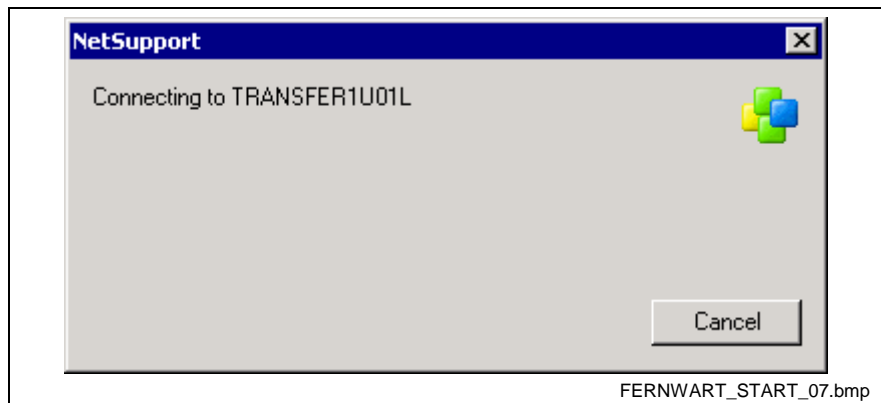
Fig. 5-10:   Establishing a connection

The remote session to the
control unit has been
established. The entire desktop
of the control unit now appears
on the service PC.

FERNWART_START_08.bmp
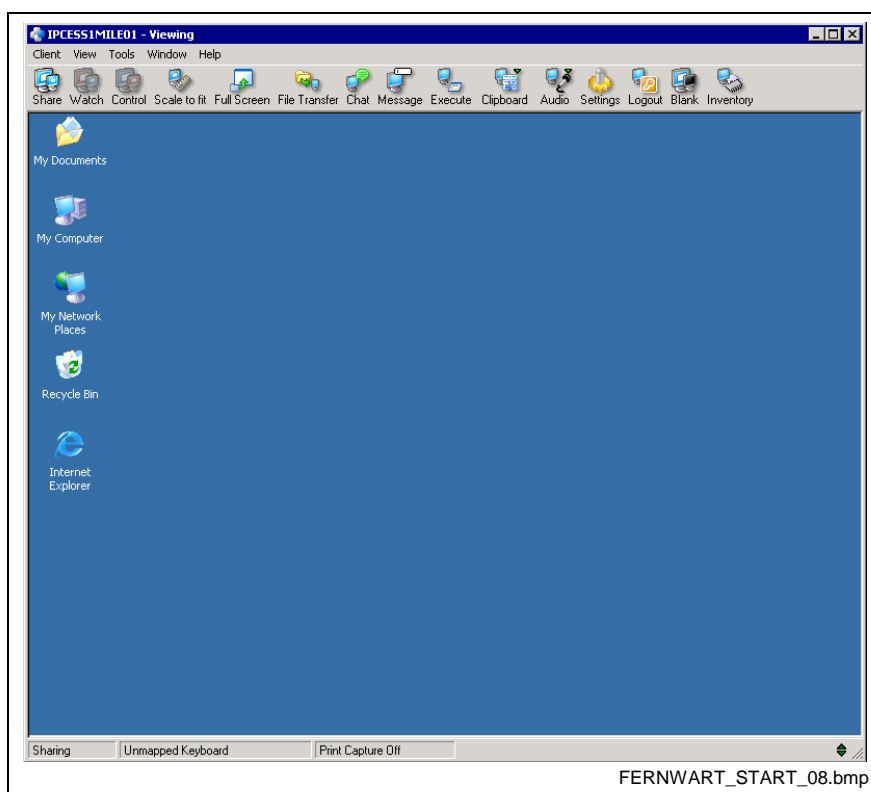
Fig. 5-11:   Station TRANSFER10UL is operated by remote control

---

Note: The control unit can be operated by the service PC via this
screen. All Windows functions are available.

Rexroth
Bosch Group

6   Behavior during a Remote Session / Notes on Possible Dangers

6.1   Tips on Procedure

During the entire remote session, keep in contact by telephone with a trained service technician located at the machine. Comment on important operating steps and/or have these confirmed so that you are also informed by telephone at all times on the condition of the system. Only take any action after prior consultation.

Note:	Hold strictly to this procedure and be aware that the machine may take direct action based on your operating steps.

Carry out all operating steps slowly and after due consideration. Please observe that remote control by the service PC is normally via a network and, for this reason, the system may be operated with a slight delay.

6.2   Notes on Possible Dangers

⚠️ **WARNING**	**Unsupervised machine movements triggered by remote operation can result in injuries to personnel and damage to materials!**

Rexroth
Bosch Group

7 System Overview

A powerful software package for remote control is available for the automation platform IndraWorks. The NetSupport client software is therefore installed on the control unit. When connecting via TCP/IP, the service PC can access the control unit either using the NetSupport control software or a WEB browser (as of IE4.0).

The WEB browser thereby communicates via an ActiveX Control with the WEB server integrated on the control system. An additional installation on the service PC is not required.

7.1 Network Topologies

A remote session can be run using a large variety of network topologies, such as remote data communication/Internet or within various LAN topologies. Several possible configurations are listed in the following to provide you with a better overview of these various possibilities.

Direct Connection via Remote Data Communication/Internet

The simplest network structure possible for connecting a remote ession between a control unit and a service PC is a remote data communication connection.

Under Windows the control system must be configured as a RAS server and the service PC as a RAS client. The actual connection is then established by the modem of the control system via the telephone line to the modem of the service PC.

If the control system and the service PC are connected to the Internet, then remote diagnostics can also be carried out directly via the Internet. In this operating mode, the NetSupport client software must be accordingly configured on the control system in order to prevent unauthorized access by users on the Internet.

Fig. 7-1: I-Remote via remote data communication

Note: I-Remote via a direct telephone connection is preferable to an Internet connection for reasons of security.

Rexroth
Bosch Group

I-Remote within a Local Network

If the service PC is in the same LAN as the control unit, then the remote session can be run without any additional adjustment of the network. It is thus irrelevant whether the service PC and the control unit are in different subnetworks or not. In this case, the IP packages are routed between the individual subnetworks.

If a former stand-alone control system group such as that shown below is connected to the head station with the LAN, then appropriate adjustments must be made to allow for communication between the service PC and the group.

In the configuration shown, the head station is a multihomed system with 2 network interface cards. Even without use of a router, communication between a control system group and the adjacent subnetwork can be established within this configuration. IP forwarding must first be activated at the head station. Then the head station must also be accepted into the TCP/IP configuration as an additional gateway on the service PC and on the control systems of the group. After this adjustment, the control system groups can be remotely operated by the service PC.

TeleserviceLAN.JPG
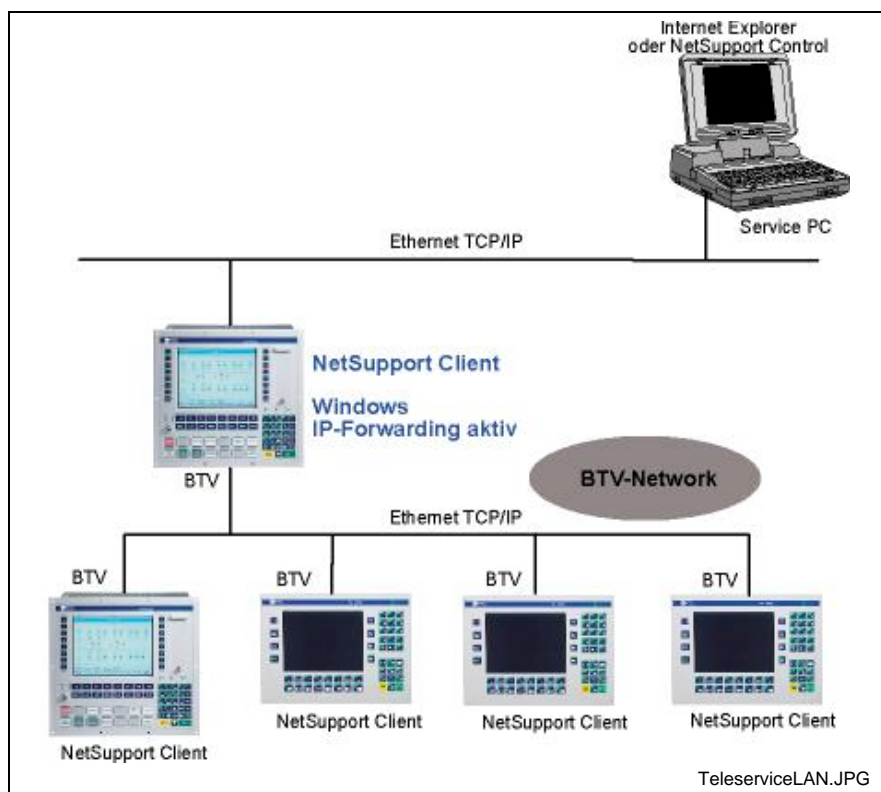
Fig. 7-2:   I-Remote within a local network

I-Remote within a LAN via Remote Data Communication/Internet

Similar to a direct connection, the control system must be configured as a RAS server and the service PC as a RAS client. In contrast to a direct connection, however, access to the entire network must be activated on the RAS server.

Thereafter, a I-Remote connection to every control system group is possible from the service PC via a direct telephone connection or via the Internet.
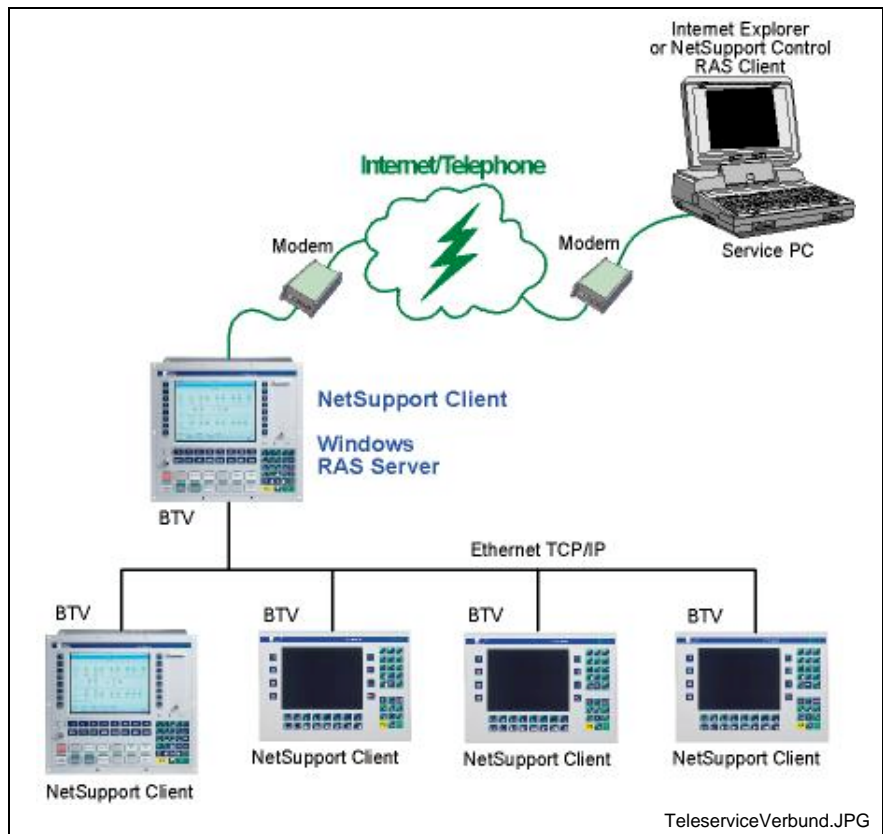
Fig. 7-3:   I-Remote within a LAN via a head station with RAS server and remote data communication
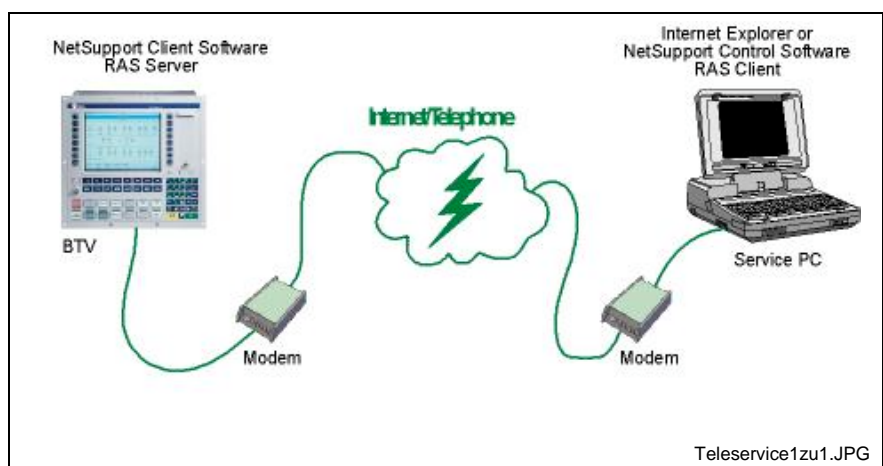

Note: I-Remote via a direct telephone connection is preferable to an Internet connection for reasons of security.

Rexroth
Bosch Group

LAN Connection via a Router

By using a router, entire networks can be connected to each other. In this way, for example, the service network of a machine manufacturer can be connected to the production network of the customer (as shown in Fig. 7-4). Depending on the bandwidth required, the router can be connected, for example, via ISDN, DSL or other transmission media. The actual connection is switched through by the routers only when required, i.e. when a remote session is established (dial-on-demand).

By implementing a router connection, a highly efficient network connection can be implemented with a high bandwidth. This thereby allows not only the pure data connection for remote operation of the machine, but also the transmission of movies.

The router configuration should be made by the network administrator. Alternatively, a completely configured router can be made available after consultation with Bosch Rexroth.

TSrvb_KopplungLAN.JPG
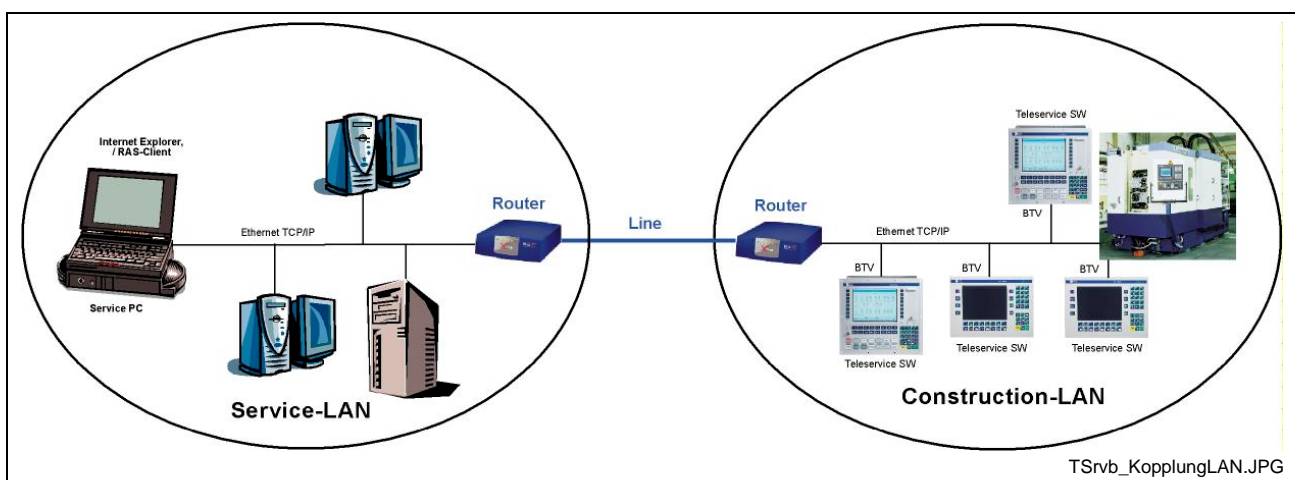
Fig. 7-4:   LAN connection via a router

8   Installing a Modem

To establish a remote data communication connection between the service PC and the control unit, a modem must first be installed on both devices.

Note: The installation of a modem in Windows XP is described here. If you use another operating system please make use of its documentation.

Select Add... under Control Panel-Phone and Modem Options
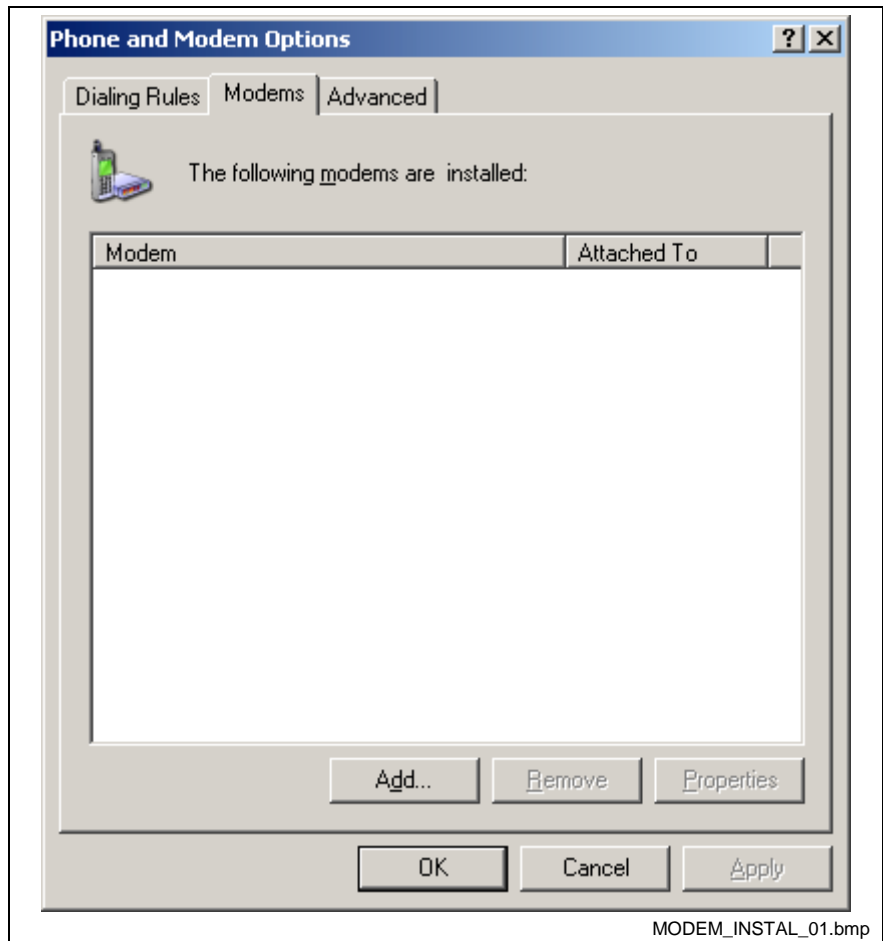
Fig. 8-1:   Control Panel - Modem Options

Activate the Select Modem checkbox (no automatic recognition)

MODEM_INSTAL_02.bmp
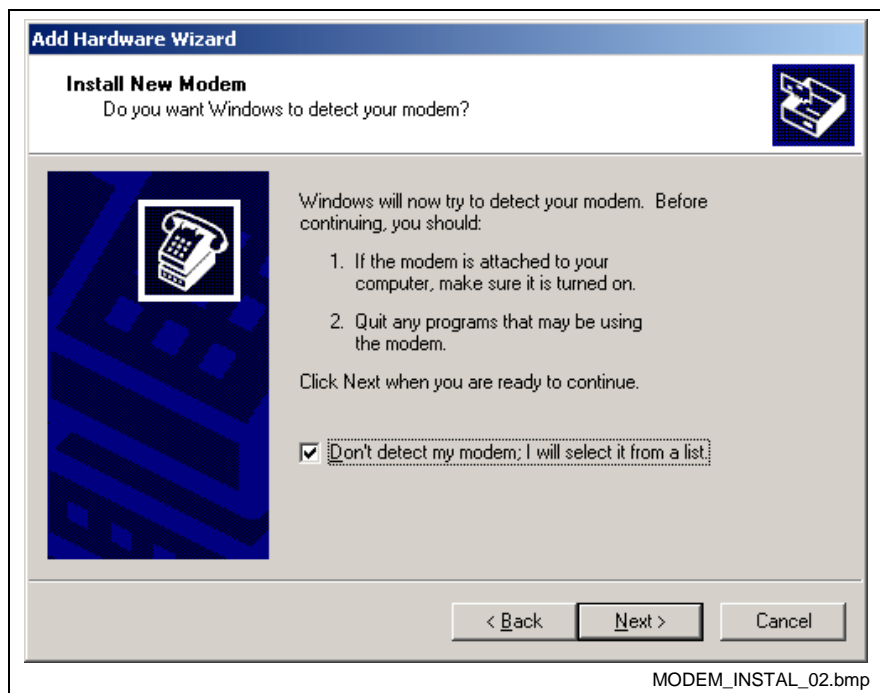
Fig. 8-2:   Installing a standard modem

Select the following modem (standard modem types): Standard 56000 bps Modem

MODEM_INSTAL_03.bmp
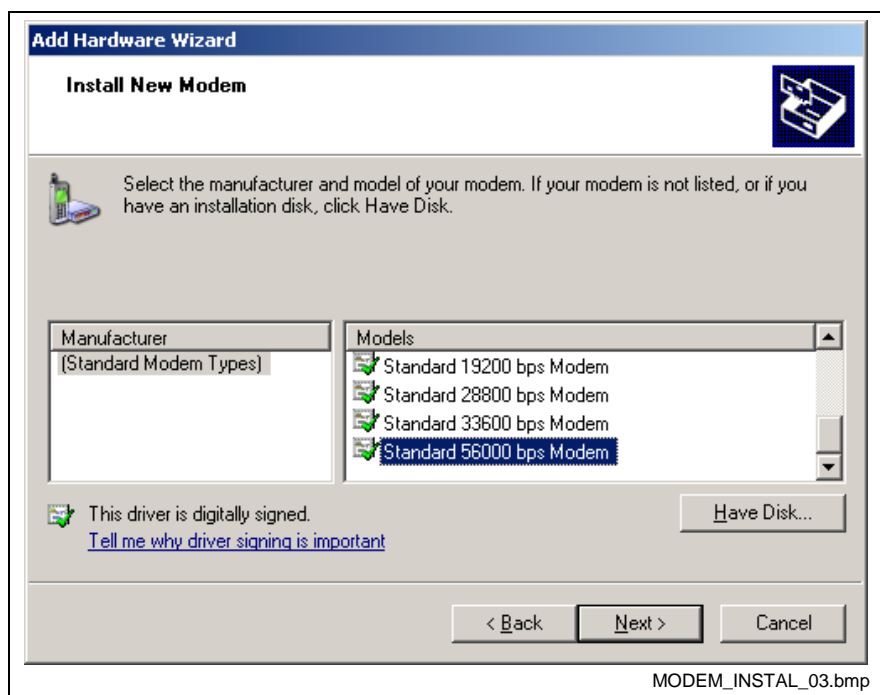
Fig. 8-3:   Modem selection list

Note: If you want to install a non-standard modem, then you can install the drivers provided by the manufacturer via the "**Have Disk**" button.

**Select a free COM port to which
the modem can be connected**

MODEM_INSTAL_04.bmp
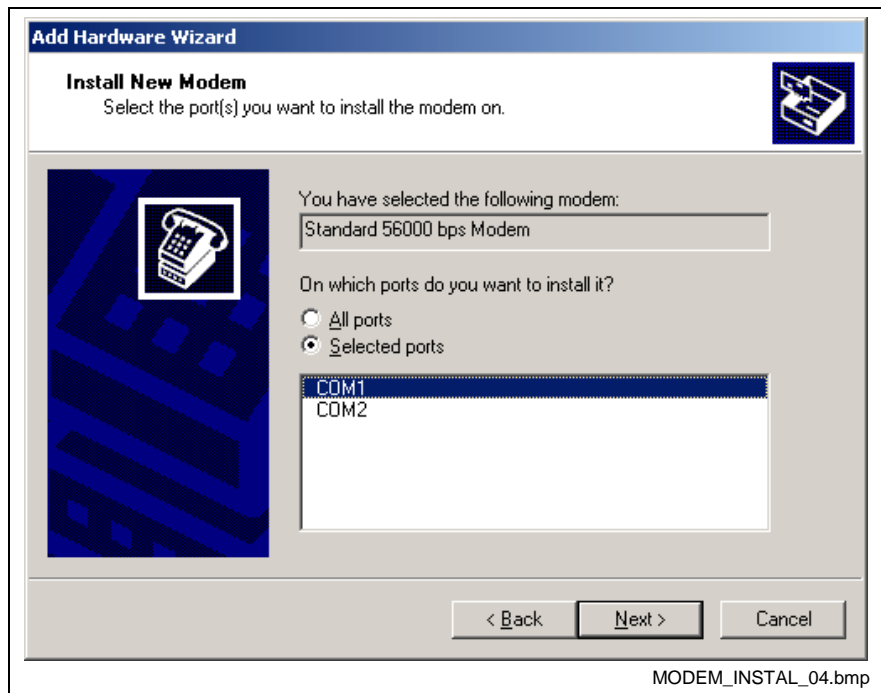
Fig. 8-4:   Connecting modem to serial port (COM)

Select the button "Finish"

MODEM_INSTAL_05.bmp
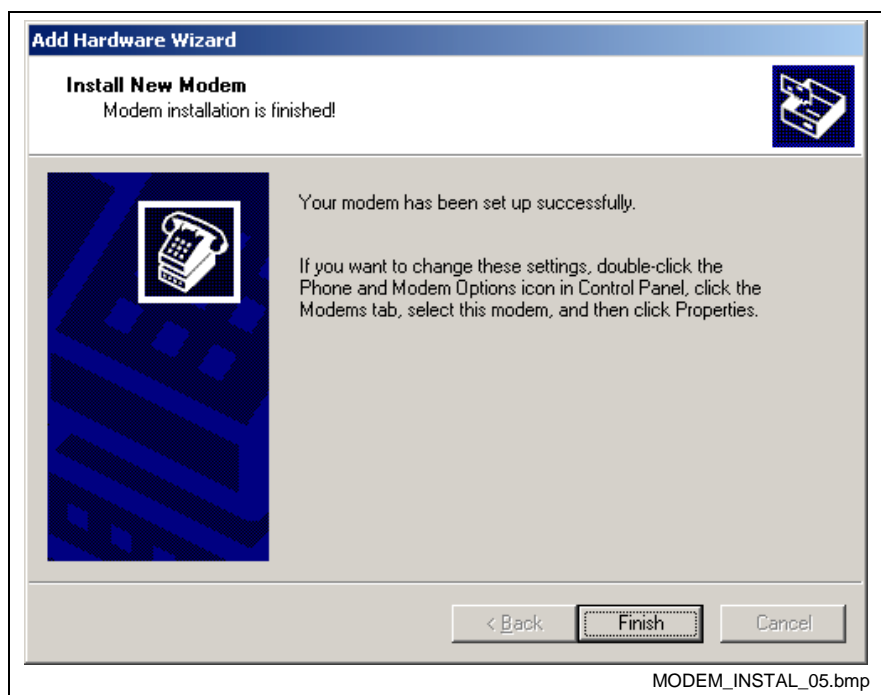
Fig. 8-5:   Finishing installation

Note: Depending on the telephone connection used, special call
settings must be set for the modem such as **wait for dial tone
before dialing.**

Rexroth
Bosch Group

9   Installing a Remote Communications Network (RAS)

9.1   General Notes

With RAS (Remote Access Service) Windows provides the possibility of connecting RAS client computers via a modem, ISDN or X.25 connection to a RAS server. Not only is a great variety of clients supported in this process, but it also provides great flexibility in selecting and combining the used network protocols.

The computers connected via RAS with the network can only access the RAS server or the entire network, depending on how the RAS server is configured, as if they were connected directly with the network locally.

Note: The installation of a remote communication network (RAS) under Windows XP is described here. If you have got another operating system please use its documentation.

When a remote session is established, the service PC establishes a RAS connection to the control unit. To do this, the RAS service must be installed on the service PC and on the client PC. The service PC is to be configured as a RAS client and the client PC as a RAS server. The installation steps required are described in the following.

Rexroth
Bosch Group

9.2   Activate RAS on Service PC and Client PC

Select in the menu Control Panel-Administrative Tools-Services the service "Remote Access Manager" and select "Properties" in the context menu of the service

RAS_INSTAL_00.bmp
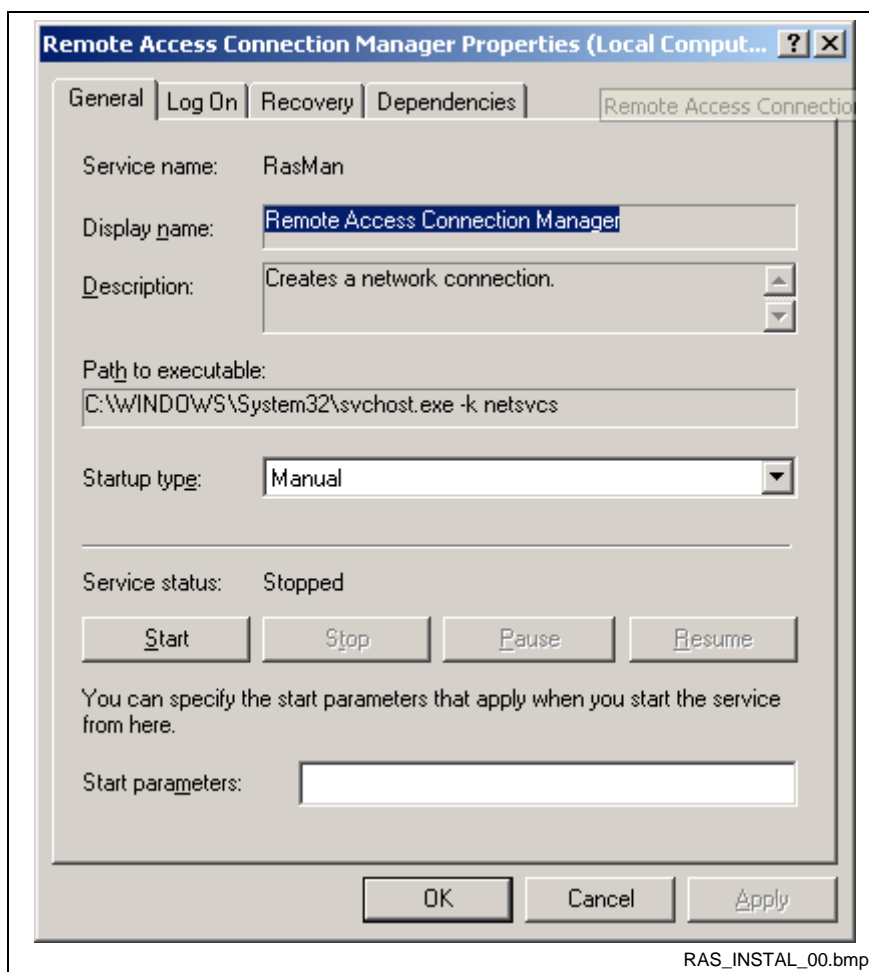
Fig. 9-1:   Properties of RAS

Set the startup type on manual and adopt the setting. Now start the service via the button "Start".

Configuration of RAS on the Service PC

Start the New Connection wizard via Start-Settings-Control Panel-Network Connections

RAS_INSTAL_01.bmp

Fig. 9-2:   Start New Connection wizard

Select "Connect to the network at my workplace"

RAS_INSTAL_02.bmp
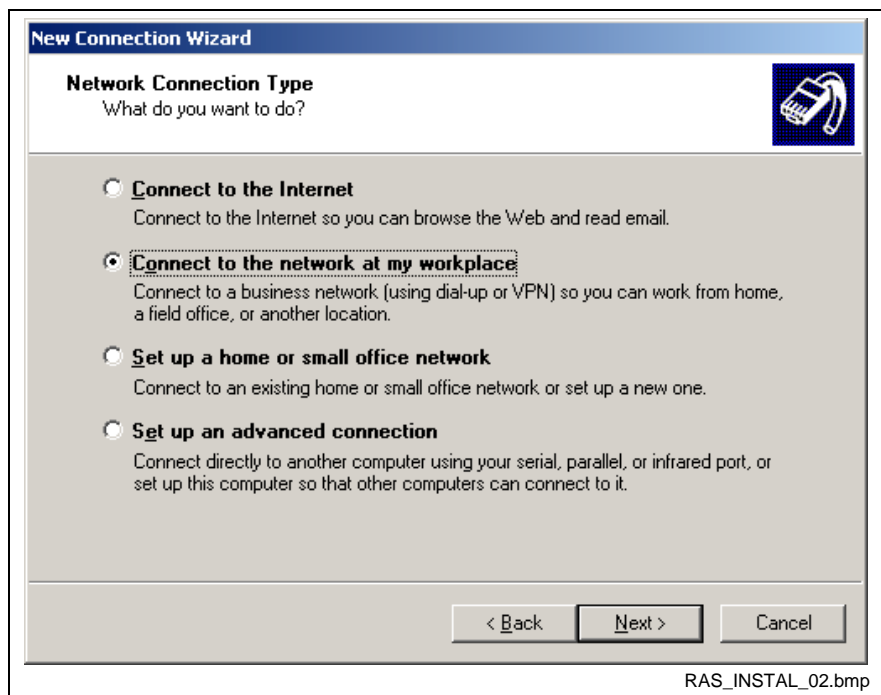
Fig. 9-3:   Select network connection type

Rexroth
Bosch Group

Select "Dial-up connection"

RAS_INSTAL_03.bmp
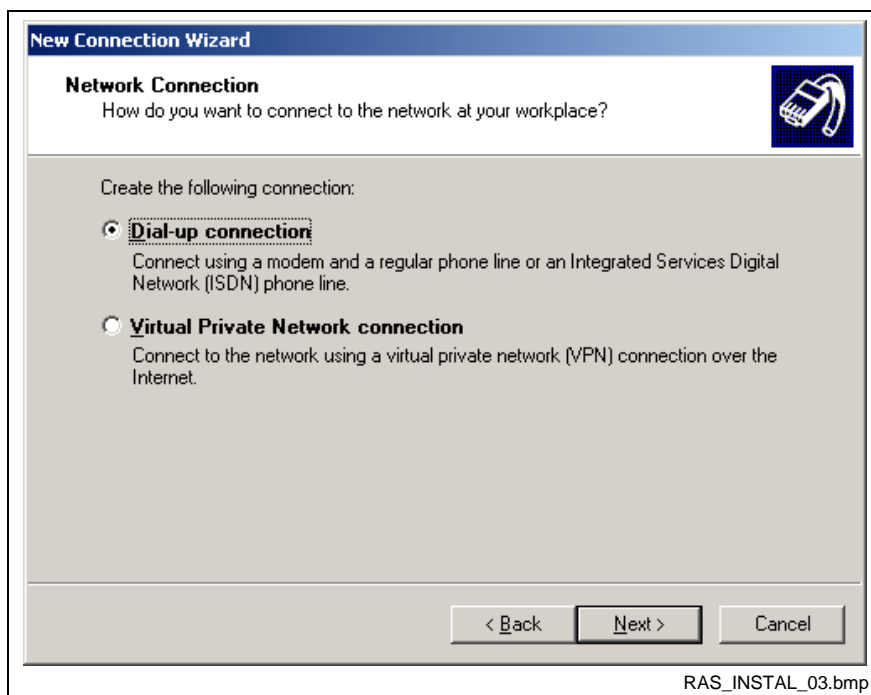
Fig. 9-4: Select connection

Enter a name for the connection

RAS_INSTAL_04.bmp
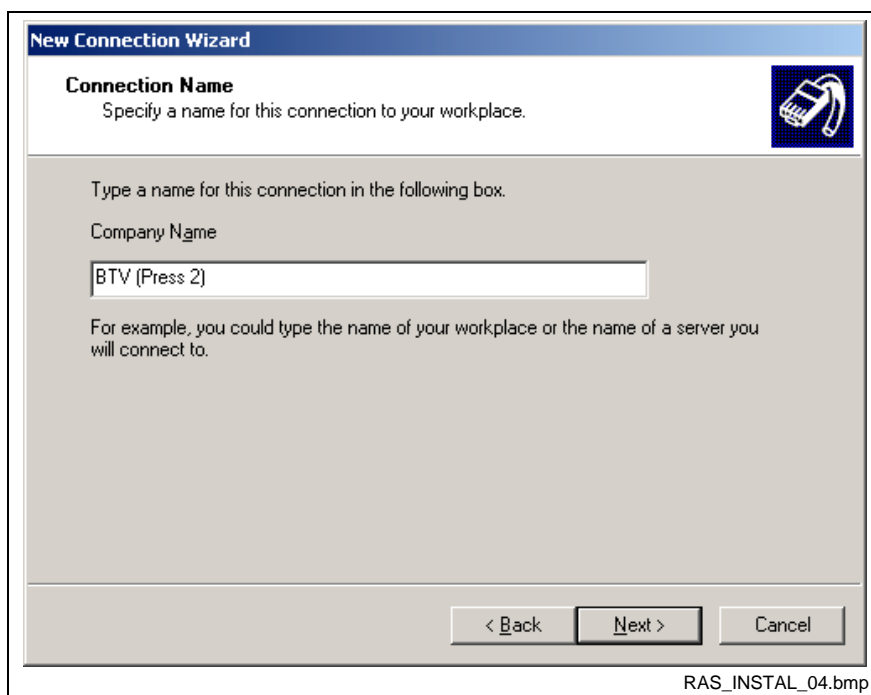
Fig. 9-5: Enter the connection name

Enter the phone number of the control unit to which a remote session is to be established

Fig. 9-6:   Enter phone number of destination station

Note: If the service PC is connected to the telephone network by a telecommunication system, you may need to start the phone number by a 0 to get an outside line. The number must then be entered in the form given above.

Click at "Finish" in order to complete the configuration

Fig. 9-7:   Finish the wizard

Rexroth
Bosch Group

Configuration of RAS on the Client PC

Note: In order to allow a remote user an RAS access, the user must have a valid user account on the RAS server. RAS access rights must be assigned to this account.

For that purpose it is practical to define a special user account for the I-Remote connection on the RAS server first. Since system settings may have to be changed by the service personnel during the remote session, it is recommended to include this account in the local group of administrators.

Then the account can obtain a remote access right via the RAS management and the callback safety can be configured.

Start the New Connection wizard via Start-Settings-Control Panel-Network Connections

Fig. 9-8:   Start New Connection wizard

Select "Set up an advanced connection"

RAS_INSTAL_07.bmp
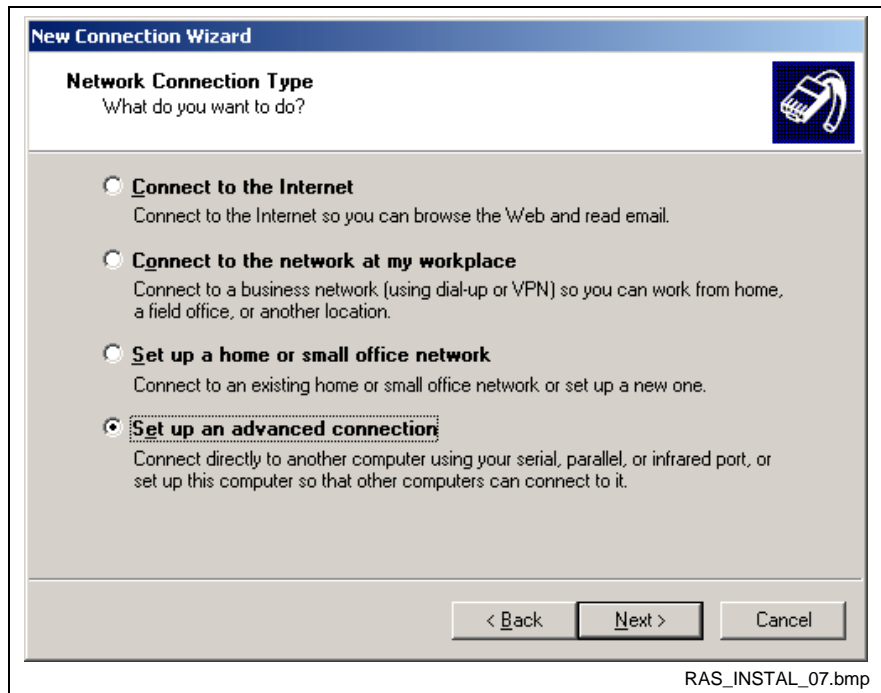
Fig. 9-9:   Select network connection type

Select "Accept incoming connections"

RAS_INSTAL_08.bmp
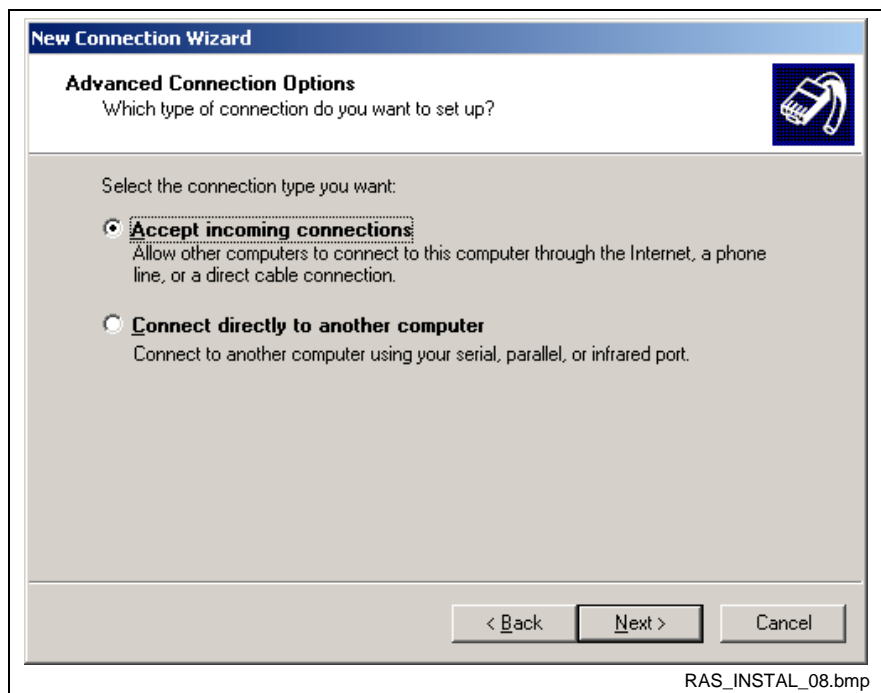
Fig. 9-10:   Accept incoming connections

Rexroth
Bosch Group

Activate the checkbox for the modem you want to allow for incoming connections

RAS_INSTAL_10.bmp
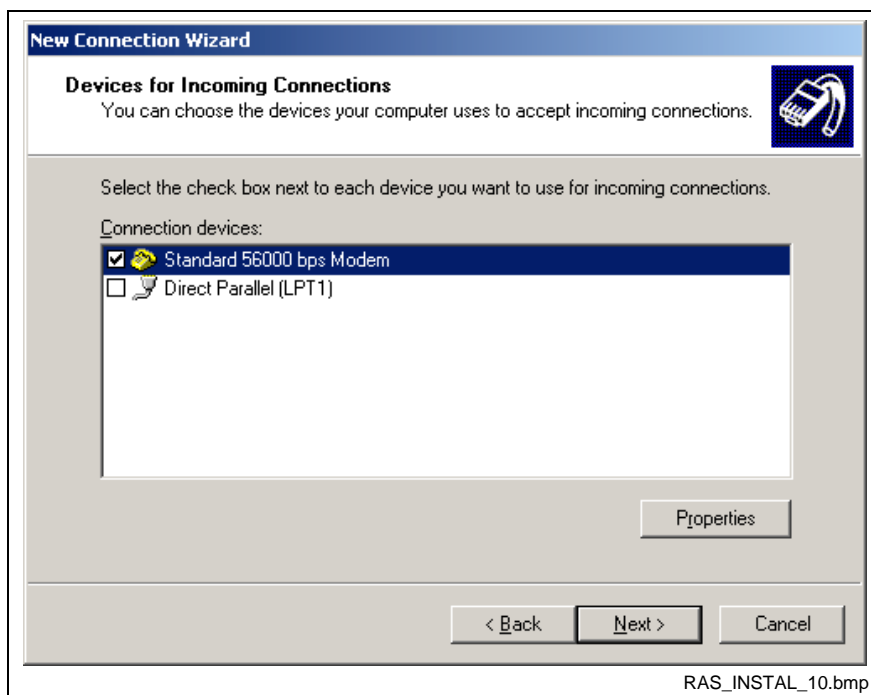
Fig. 9-11:　Select the modem

Select "Do not allow virtual private connections"

RAS_INSTAL_11.bmp
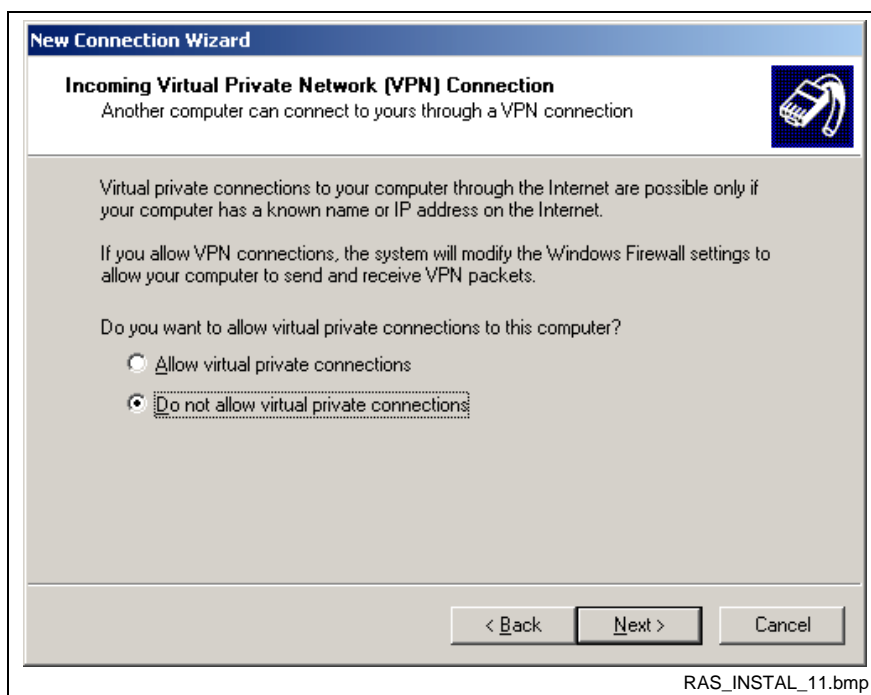
Fig. 9-12:　Forbid VPN connections

Configure the remote access right

RAS_INSTAL_12.bmp
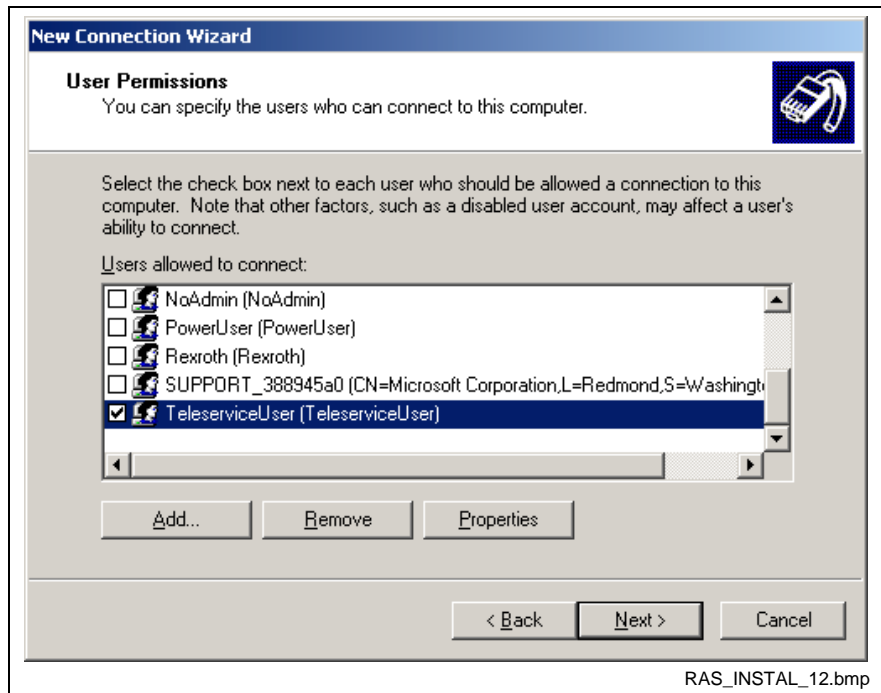
Fig. 9-13:   Assign permission for I-Remote

Select a user which you want to assign RAS access rights to and click on the button "Properties".

Configure callback safety

RAS_INSTAL_13.bmp
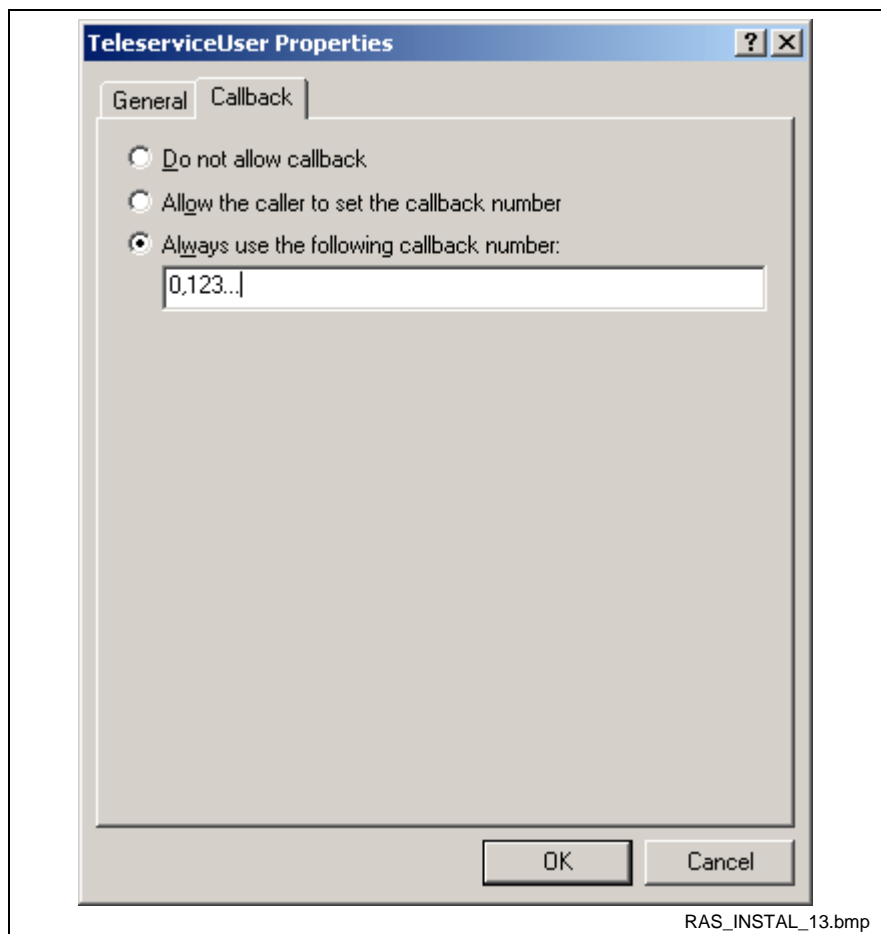
Fig. 9-14:   Configure phone number for callback

Rexroth
Bosch Group

Activate in the tab "Callback" the radio button "Always use the following callback number" and enter the phone number of the service PC that is to operate the remote control. Note that under the use of telecommunication systems, you may need to start the phone number by a 0 to get an outside line.

Confirm with "OK" and click in the next dialog at "next >".

Select the entry "Internet Protocol (TCP/IP)" and click at the button "Properties".

RAS_INSTAL_14.bmp
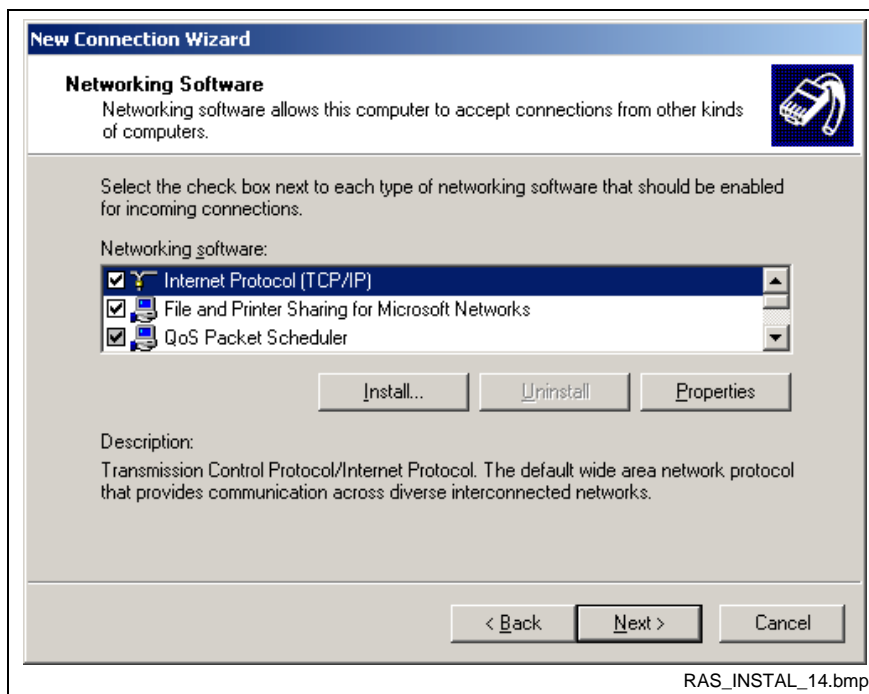
Fig. 9-15:   Select protocol

Configure the TCP/IP connection

RAS_INSTAL_15.bmp
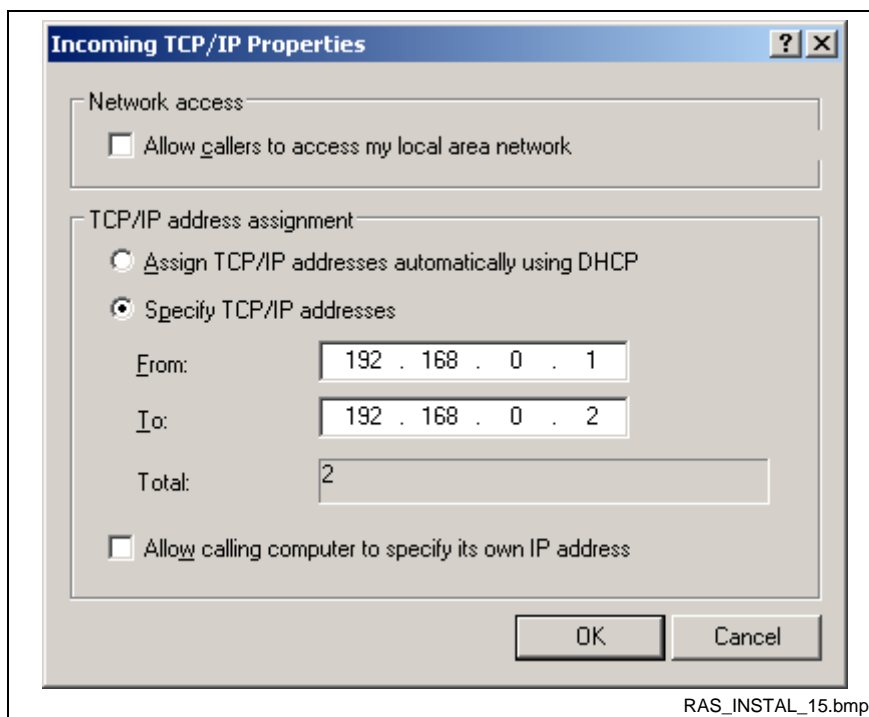
Fig. 9-16:   TCP/IP configuration

Deactivate the checkbox "Allow callers to access my local area network".

IP addresses must be given for both WAN adapters (modems) involved in the TCP/IP connection between service PC and control unit. These IP addresses are assigned to both participants by the RAS-Server when the connection is established. Set a static address pool here. The address pool spans the private address area of a class C-net from 192.168.0.1 to 192.168.0.2.

Note: Since addressing during the I-Remote uses IP addresses, it must be ensured that a fixed IP address is assigned to every control unit. When using DHCP this assignment must be preset on the DHCP server.

To coordinate the IP addresses, contact your network administrator.

If your RAS connection has a function for resolving names (WINS server or LMHOSTS file), the connection during a remote session can also be established using the computer name

Finish the wizard

Fig. 9-17:   Finish RAS configuration

Rexroth
Bosch Group

10   Appendix A: Troubleshooting

Dial-up via modem is faulty

- Check your modem installation.
- If you are using a telecommunications system, the modem settings may have to be adjusted under **Control Panel-Telephone and modem options-Settings**.
- Check whether the dial procedure used is correctly set to MFV (multi-frequency) or IWV (pulse dial procedure). Menu item **Control Panel-Telephone and modem options-Dial Parameters**.
- When using a telecommunications system that requires a 0 to obtain an outside line, the remote data communication telephone book entry must be in the following form: **0,<area code/telephone number>**

RAS connection is unstable

- Make sure that a current Service Pack is installed.

Callback from RAS server doesn't work

- Check your modem installation.
- If you are using a telecommunications system, the modem settings may have to be adjusted under **Control Panel-Telephone and modem options-Settings**.
- Check whether the dial procedure used is correctly set to MFV (multi-frequency) or IWV (pulse dial procedure). Menu item **Control Panel-Telephone and modem options -Dial Parameters**.
- When using a telecommunications system that requires a 0 to obtain an outside line, the callback configured in the RAS administration must be in the following form: **0,<area code/telephone number>**.

From the service PC, no connection to the control unit can be made via NetSupport control or IE (the RAS connection is established)

Make sure that the IP address of the control unit has been correctly entered. If the target control unit obtains its IP address from a DHCP server, this may change after the IP lease has expired on the DHCP server. In this case, a connection can no longer be made via the old IP address of the control unit.

To avoid this when using DHCP, please configure the DHCP server in such a way that the control system is assigned a fixed IP address. Please contact your network administrator.

11   Appendix B: Configuring a Remote Session

General Information

The remote session between the service PC and the control unit can be freely configured with regard to important parameters such as

- security (user administration, access rights)
- transport protocol
- available functions on access
- WEB interface, etc.

The configuration can be edited using the "NetSupport Configurator" application and is stored in the "CLIENT32.INI" file in the NetSupport Manager directory of the control unit.

The "CLIENT32.INI" file configures the NetSupport Manager software on the client PC. The NetSupport Manager software on the service PC does not need to be specially configured. When establishing a remote session, the configuration applies to both participants in the session, i.e. for the service PC and for the client PC.

Step-by-step configuration
- Start the "NetSupport Configurator' application.
- Select the "Advanced" button in the start screen to call up the advanced client configuration.
- Enter your password in the Security dialog box (the default setting here is "Tele**service**").
- In the configurator, double-click at the profile name 'Master Profile'.
- Carry out the configuration using the tabs provided and then confirm by pressing the "OK" button.
- Store the configuration under **File-Save**; after the promptrestart the client.
- Exit the "NetSupport Configurator".
- The configuration is now available on the PC in the "CLIENT32.INI" file in the NetSupport Manager program directory.
- If the configuration has been made on the service PC copy this file into the NetSupport Manager program directory of the client PC.
- Then restart NetSupport Manager on the client PC.

The new configuration is then valid on the client PC.

Note: Please use the documentation and online help delivered with NetSupport Manager, to adjust the configuration.

Rexroth
Bosch Group

12 Service & Support

12.1 Helpdesk

Unser Kundendienst-Helpdesk im Hauptwerk Lohr am Main steht Ihnen mit Rat und Tat zur Seite. Sie erreichen uns

- telefonisch: **+49 (0) 9352 40 50 60**
  über Service Call Entry Center   Mo-Fr 07:00-18:00

- per Fax: **+49 (0) 9352 40 49 41**

- per e-Mail: **service@indramat.de**

Our service helpdesk at our headquarters in Lohr am Main, Germany can assist you in all kinds of inquiries. Contact us

- by phone: **+49 (0) 9352 40 50 60**
  via Service Call Entry Center Mo-Fr 7:00 am - 6:00 pm

- by fax: **+49 (0) 9352 40 49 41**

- by e-mail: **service@indramat.de**

12.2 Service-Hotline

Außerhalb der Helpdesk-Zeiten ist der Service direkt ansprechbar unter

+49 (0) 171 333 88 26
oder **+49 (0) 172 660 04 06**

After helpdesk hours, contact our service department directly at

+49 (0) 171 333 88 26
or **+49 (0) 172 660 04 06**

12.3 Internet

Unter **www.indramat.de** finden Sie ergänzende Hinweise zu Service, Reparatur und Training sowie die **aktuellen** Adressen *) unserer auf den folgenden Seiten aufgeführten Vertriebs- und Servicebüros.

☐ Verkaufsniederlassungen
▨ Niederlassungen mit Kundendienst

Außerhalb Deutschlands nehmen Sie bitte zuerst Kontakt mit unserem für Sie nächstgelegenen Ansprechpartner auf.

*) http://www.indramat.de/de/kontakt/adressen
Die Angaben in der vorliegenden Dokumentation können seit Drucklegung überholt sein.

At **www.indramat.de** you may find additional notes about service, repairs and training in the Internet, as well as the **actual** addresses *) of our sales- and service facilities figuring on the following pages.

☐ sales agencies
▨ offices providing service

Please contact our sales / service office in your area first.

*) http://www.indramat.de/en/kontakt/adressen
Data in the present documentation may have become obsolete since printing.

12.4 Vor der Kontaktaufnahme... - Before contacting us...

Wir können Ihnen schnell und effizient helfen wenn Sie folgende Informationen bereithalten:

detaillierte Beschreibung der Störung und der Umstände.

Angaben auf dem Typenschild der betreffenden Produkte, insbesondere Typenschlüssel und Seriennummern.

Tel.-/Faxnummern und e-Mail-Adresse, unter denen Sie für Rückfragen zu erreichen sind.

For quick and efficient help, please have the following information ready:

1. Detailed description of the failure and circumstances.

2. Information on the type plate of the affected products, especially type codes and serial numbers.

3. Your phone/fax numbers and e-mail address, so we can contact you in case of questions.

Rexroth
Bosch Group

12.5 Kundenbetreuungsstellen - Sales & Service Facilities

Deutschland – Germany

vom Ausland: (0) nach Landeskennziffer weglassen!
from abroad: don't dial (0) after country code!

Vertriebsgebiet Mitte Germany Centre	SERVICE	SERVICE	SERVICE
Rexroth Indramat GmbH Bgm.-Dr.-Nebel-Str. 2 / Postf. 1357 97816 Lohr am Main / 97803 Lohr **Kompetenz-Zentrum Europa** Tel.: +49 (0)9352 40-0 Fax: +49 (0)9352 40-4885	**CALL ENTRY CENTER** **MO – FR** von 07:00 - 18:00 Uhr from 7 am – 6 pm Tel. +49 (0) 9352 40 50 60 service@indramat.de	**HOTLINE** **MO – FR** von 17:00 - 07:00 Uhr from 5 pm - 7 am + SA / SO Tel.: +49 (0)172 660 04 06 oder / or Tel.: +49 (0)171 333 88 26	**ERSATZTEILE / SPARES** verlängerte Ansprechzeit - extended office time - ♦ nur an Werktagen - only on working days - ♦ von 07:00 - 18:00 Uhr - from 7 am - 6 pm - **Tel. +49 (0) 9352 40 42 22**
Vertriebsgebiet Süd Germany South Rexroth Indramat GmbH Landshuter Allee 8-10 80637 München Tel.: +49 (0)89 127 14-0 Fax: +49 (0)89 127 14-490	Vertriebsgebiet West Germany West Bosch Rexroth AG Regionalzentrum West Borsigstrasse 15 40880 Ratingen Tel.: +49 (0)2102 409-0 Fax: +49 (0)2102 409-406	Gebiet Südwest Germany South-West Bosch Rexroth AG Service-Regionalzentrum Süd-West Siemensstr.1 70736 Fellbach Tel.: +49 (0)711 51046–0 Fax: +49 (0)711 51046–248	Gebiet Südwest Germany South-West Bosch Rexroth AG Regionalzentrum Südwest Ringstrasse 70 / Postfach 1144 70736 Fellbach / 70701 Fellbach Tel.: +49 (0)711 57 61–100 Fax: +49 (0)711 57 61–125
Vertriebsgebiet Nord Germany North Bosch Rexroth AG Walsroder Str. 93 30853 Langenhagen Tel.: +49 (0) 511 72 66 57-0 Service: +49 (0) 511 72 66 57-256 Fax: +49 (0) 511 72 66 57-93 Service: +49 (0) 511 72 66 57-95	Vertriebsgebiet Mitte Germany Centre Bosch Rexroth AG Regionalzentrum Mitte Waldecker Straße 13 64546 Mörfelden-Walldorf Tel.: +49 (0) 61 05 702-3 Fax: +49 (0) 61 05 702-444	Vertriebsgebiet Ost Germany East Bosch Rexroth AG Beckerstraße 31 09120 Chemnitz Tel.: +49 (0)371 35 55-0 Fax: +49 (0)371 35 55-333	Vertriebsgebiet Ost Germany East Bosch Rexroth AG Regionalzentrum Ost Walter-Köhn-Str. 4d 04356 Leipzig Tel.: +49 (0)341 25 61-0 Fax: +49 (0)341 25 61-111

Europa (West) - Europe (West)

vom Ausland: (0) nach Landeskennziffer weglassen,   Italien: 0 nach Landeskennziffer mitwählen
from abroad: don't dial (0) after country code,   Italy: dial 0 after country code

Austria - Österreich	Austria – Österreich	Belgium - Belgien	Denmark - Dänemark
Bosch Rexroth GmbH Bereich Indramat Stachegasse 13 1120 Wien Tel.: +43 (0)1 985 25 40 Fax: +43 (0)1 985 25 40-93	Bosch Rexroth GmbH Gesch.ber. Rexroth Indramat Industriepark 18 4061 Pasching Tel.: +43 (0)7221 605-0 Fax: +43 (0)7221 605-21	Bosch Rexroth AG Electric Drives & Controls Industrielaan 8 1740 Ternat Tel.: +32 (0)2 5830719 - service: +32 (0)2 5830717 Fax: +32 (0)2 5830731 indramat@boschrexroth.be	BEC A/S Zinkvej 6 8900 Randers Tel.: +45 (0)87 11 90 60 Fax: +45 (0)87 11 90 61
Great Britain – Großbritannien	Finland - Finnland	France - Frankreich	France - Frankreich
Bosch Rexroth Ltd. Rexroth Indramat Division Broadway Lane, South Cerney Cirencester, Glos GL7 5UH Tel.: +44 (0)1285 863000 Fax: +44 (0)1285 863030 sales@boschrexroth.co.uk service@boschrexroth.co.uk	Bosch Rexroth Oy Rexroth Indramat division Ansatie 6 017 40 Vantaa Tel.: +358 (0)9 84 91-11 Fax: +358 (0)9 84 91-13 60	Bosch Rexroth S.A. Division Rexroth Indramat Avenue de la Trentaine (BP. 74) 77503 Chelles Cedex Tel.: +33 (0)164 72-70 00 Fax: +33 (0)164 72-63 00 **Hotline:** +33 (0)608 33 43 28	Bosch Rexroth S.A. Division Rexroth Indramat ZI de Thibaud, 20 bd. Thibaud (BP. 1751) 31084 Toulouse Tel.: +33 (0)5 61 43 61 87 Fax: +33 (0)5 61 43 94 12
France - Frankreich	Italy - Italien	Italy - Italien	Italy - Italien

Bosch Rexroth S.A.
Division Rexroth Indramat
91, Bd. Irène Joliot-Curie
69634 Vénissieux – Cedex
Tel.: +33 (0)4 78 78 53 65
Fax: +33 (0)4 78 78 53 62
	Bosch Rexroth S.p.A.
	Via G. Di Vittoria, 1
	20063 Cernusco S/N.MI
	
	Tel.: +39 02 92 365 1
	           +39 02 92 365 326
	Fax: +39 02 92 365 500
	           +39 02 92 365 516378
		Bosch Rexroth S.p.A.
		Via Paolo Veronesi, 250
		10148 Torino
		
		Tel.: +39 011 224 88 11
		Fax: +39 011 224 88 30
			Bosch Rexroth S.p.A.
			Via del Progresso, 16 (Zona Ind.)
			35020 Padova
			
			Tel.: +39 049 8 70 13 70
			Fax: +39 049 8 70 13 77

Italy - Italien	Italy - Italien	Netherlands – Niederlande/Holland	Netherlands - Niederlande/Holland
Bosch Rexroth S.p.A. Via Mascia, 1 80053 Castellamare di Stabia NA Tel.: +39 081 8 71 57 00 Fax: +39 081 8 71 68 85	Bosch Rexroth S.p.A. Viale Oriani, 38/A 40137 Bologna Tel.: +39 051 34 14 14 Fax: +39 051 34 14 22	Bosch Rexroth B.V. Kruisbroeksestraat 1 (P.O. Box 32) 5281 RV Boxtel Tel.: +31 (0)411 65 19 51 Fax: +31 (0)411 65 14 83 indramat@hydraudyne.nl	Bosch Rexroth Services B.V. Kruisbroeksestraat 1 (P.O. Box 32) 5281 RV Boxtel Tel.: +31 (0)411 65 19 51 Fax: +31 (0)411 67 78 14
Norway - Norwegen	Spain - Spanien	Spain – Spanien	Sweden - Schweden
Bosch Rexroth AS Rexroth Indramat Division Berghagan 1 or: Box 3007 1405 Ski-Langhus 1402 Ski Tel.: +47 (0)64 86 41 00 Fax: +47 (0)64 86 90 62 jul.ruud@rexroth.no	Bosch Rexroth S.A. Divisiòn Rexroth Indramat Centro Industrial Santiga Obradors s/n 08130 Santa Perpetua de Mogoda Barcelona Tel.: +34 9 37 47 94 00 Fax: +34 9 37 47 94 01	Goimendi S.A. División Rexroth Indramat Parque Empresarial Zuatzu C/ Francisco Grandmontagne no.2 20018 San Sebastian Tel.: +34 9 43 31 84 21 - service: +34 9 43 31 84 56 Fax: +34 9 43 31 84 27 - service: +34 9 43 31 84 60 sat.indramat@goimendi.es	Rexroth Mecman Svenska AB Rexroth Indramat Division - Varuvägen 7 (Service: Konsumentvägen 4, Älfsjö) 125 81 Stockholm Tel.: +46 (0)8 727 92 00 Fax: +46 (0)8 647 32 77
Sweden - Schweden	Switzerland West - Schweiz West	Switzerland East - Schweiz Ost	
Rexroth Mecman Svenska AB Indramat Support Ekvändan 7 254 67 Helsingborg Tel.: +46 (0) 42 38 88 -50 Fax: +46 (0) 42 38 88 -74	Bosch Rexroth Suisse SA Département Rexroth Indramat Rue du village 1 1020 Renens Tel.: +41 (0)21 632 84 20 Fax: +41 (0)21 632 84 21	Bosch Rexroth Schweiz AG Geschäftsbereich Indramat Hemrietstrasse 2 8863 Buttikon Tel. +41 (0) 55 46 46 111 Fax +41 (0) 55 46 46 222	

Rexroth
Bosch Group

Europa (Ost) - Europe (East)

vom Ausland: (0) nach Landeskennziffer weglassen
from abroad: don't dial (0) after country code

Czech Republic - Tschechien	Czech Republic - Tschechien	Hungary - Ungarn	Poland – Polen
Bosch -Rexroth, spol.s.r.o. Hviezdoslavova 5 627 00 Brno Tel.: +420 (0)5 48 126 358 Fax: +420 (0)5 48 126 112	DEL a.s. Strojírenská 38 591 01 Zdar nad Sázavou Tel.: +420 566 64 3144 Fax: +420 566 62 1657	Bosch Rexroth Kft. Angol utca 34 1149 Budapest Tel.: +36 (1) 42 23 200 Fax: +36 (1) 42 23 201	Bosch Rexroth Sp.zo.o. ul. Staszica 1 05-800 Pruszków Tel.: +48 22 738 18 00 – service: +48 22 738 18 46 Fax: +48 22 758 87 35 – service: +48 22 738 18 42
Poland – Polen	Rumania - Rumänien	Russia - Russland	Russia - Russland

Bosch Rexroth Sp.zo.o.
Biuro Poznan
ul. Dabrowskiego 81/85
60-529 Poznan
Tel.:   +48 061 847 64 62 /-63
Fax: +48 061 847 64 02
	Bosch Rexroth Sp.zo.o.
	Str. Drobety nr. 4-10, app. 14
	70258 Bucuresti, Sector 2
	Tel.: +40 (0)1 210 48 25
	            +40 (0)1 210 29 50
	Fax: +40 (0)1 210 29 52
		Bosch Rexroth OOO
		Wjatskaja ul. 27/15
		127015 Moskau
		Tel.: +7-095-785 74 78
		            +7-095 785 74 79
		Fax: +7 095 785 74 77
		laura.kanina@boschrexroth.ru
			ELMIS
			10, Internationalnaya
			246640 Gomel, Belarus
			
			Tel.: +375/ 232 53 42 70
			            +375/ 232 53 21 69
			Fax: +375/ 232 53 37 69
			elmis_ltd@yahoo.com

Turkey - Türkei	Slowenia - Slowenien		
Bosch Rexroth Otomasyon San & Tic. A..S. Fevzi Cakmak Cad No. 3 34630 Sefaköy Istanbul Tel.: +90 212 541 60 70 Fax: +90 212 599 34 07	DOMEL Otoki 21 64 228 Zelezniki Tel.: +386 5 5117 152 Fax: +386 5 5117 225 brane.ozebek@domel.si		

Africa, Asia, Australia – incl. Pacific Rim

Australia - Australien	Australia - Australien	China	China
AIMS - Australian Industrial Machinery Services Pty. Ltd. 28 Westside Drive Laverton North Vic 3026 Melbourne Tel.: +61 3 93 243 321 Fax: +61 3 93 243 329 Hotline: +61 4 19 369 195 terryobrien@aimservices.com.au	Bosch Rexroth Pty. Ltd. No. 7, Endeavour Way Braeside Victoria, 31 95 Melbourne Tel.: +61 3 95 80 39 33 Fax: +61 3 95 80 17 33 mel@rexroth.com.au	Shanghai Bosch Rexroth Hydraulics & Automation Ltd. Waigaoqiao, Free Trade Zone No.122, Fu Te Dong Yi Road Shanghai 200131 - P.R.China Tel.: +86 21 58 66 30 30 Fax: +86 21 58 66 55 23 gf.zhu_sh@boschrexroth.com.cn	Bosch Rexroth China Ltd. 15/F China World Trade Center 1, Jianguomenwai Avenue Beijing 100004, P.R.China Tel.: +86 10 65 05 03 80 Fax: +86 10 65 05 03 79
China	China	China	Hongkong
Bosch Rexroth China Ltd. Guangzhou Repres. Office Room 1014-1016, Metro Plaza, Tian He District, 183 Tian He Bei Rd Guangzhou 510075, P.R.China Tel.: +86 20 8755-0030 +86 20 8755-0011 Fax: +86 20 8755-2387	Bosch Rexroth (China) Ltd. A-5F., 123 Lian Shan Street Sha He Kou District Dalian 116 023, P.R.China Tel.: +86 411 46 78 930 Fax: +86 411 46 78 932	Melchers GmbH BRC-SE, Tightening & Press-fit 13 Floor Est Ocean Centre No.588 Yanan Rd. East 65 Yanan Rd. West Shanghai 200001 Tel.: +86 21 6352 8848 Fax: +86 21 6351 3138	Bosch Rexroth (China) Ltd. 6th Floor, Yeung Yiu Chung No.6 Ind Bldg. 19 Cheung Shun Street Cheung Sha Wan, Kowloon, Hongkong Tel.: +852 22 62 51 00 Fax: +852 27 41 33 44 alexis.siu@boschrexroth.com.hk
India - Indien	India - Indien	India - Indien	Indonesia - Indonesien
Bosch Rexroth (India) Ltd. Rexroth Indramat Division Plot. A-58, TTC Industrial Area Thane Turbhe Midc Road Mahape Village Navi Mumbai - 400 701 Tel.: +91 22 7 61 46 22 Fax: +91 22 7 68 15 31	Bosch Rexroth (India) Ltd. Rexroth Indramat Division Plot. 96, Phase III Peenya Industrial Area Bangalore - 560058 Tel.: +91 80 41 70 211 Fax: +91 80 83 94 345 mohanvelu.t@boschrexroth.co.in	Bosch Rexroth (India) Ltd. 1st Floor, S-10 Green Park ext. Market New Delhi – 110016 Tel.: +91 1 16 56 68 88 Fax: +91 1 16 56 68 87	PT. Rexroth Wijayakusuma Building # 202, Cilandak Commercial Estate Jl. Cilandak KKO, Jakarta 12560 Tel.: +62 21 7891169 (5 lines) Fax: +62 21 7891170 - 71
Japan	Japan	Korea	Korea

Bosch Rexroth Automation Corp. Service Center Japan Yutakagaoka 1810, Meito-ku, NAGOYA 465-0035, Japan
 	
Tel.: +81 52 777 88 41
     +81 52 777 88 53
     +81 52 777 88 79
Fax: +81 52 777 89 01
	Bosch Rexroth Automation Corp. Rexroth Indramat Division 1F, I.R. Building Nakamachidai 4-26-44, Tsuzuki-ku YOKOHAMA 224-0041, Japan
	
	Tel.: +81 45 942 72 10
	Fax: +81 45 942 03 41
		Bosch Rexroth-Korea Ltd. Electric Drives and Controls Bongwoo Bldg. 7FL, 31-7, 1Ga Jangchoong-dong, Jung-gu Seoul, 100-391
		
		Tel.: +82 234 061 813
		Fax: +82 222 641 295
			Bosch Rexroth-Korea Ltd. 1515-14 Dadae-Dong, Saha-Ku Rexroth Indramat Division Pusan Metropolitan City, 604-050
			
			Tel.: +82 51 26 00 741
			Fax: +82 51 26 00 747
			 gyhan@rexrothkorea.co.kr

Malaysia	Singapore - Singapur	South Africa - Südafrika	Taiwan
Bosch Rexroth Sdn.Bhd. 11, Jalan U8/82, Seksyen U8 40150 Shah Alam Selangor, Malaysia Tel.: +60 3 78 44 80 00 Fax: +60 3 78 45 48 00 hockhwa@hotmail.com rexroth1@tm.net.my	Bosch Rexroth Pte Ltd 15D Tuas Road Singapore 638520 Tel.: +65 68 61 87 33 Fax: +65 68 61 18 25 sanjay.nemade @boschrexroth.com.sg	TECTRA Automation (Pty) Ltd. 71 Watt Street, Meadowdale Edenvale 1609 Tel.: +27 11 971 94 00 Fax: +27 11 971 94 40 Hotline: +27 82 903 29 23 georgv@tectra.co.za	Rexroth Uchida Co., Ltd. No.17, Alley 24, Lane 737 Cheng Bei 1 Rd., Yungkang Tainan Hsien Tel.: +886 6 25 36 565 Fax: +886 6 25 34 754 indra.charlie@msa.hinet.net
Thailand			
NC Advance Technology Co. Ltd. 59/76 Moo 9 Ramintra road 34 Tharang, Bangkhen, Bangkok 10230 Tel.: +66 2 943 70 62 +66 2 943 71 21 Fax: +66 2 509 23 62 sonkawin@hotmail.com			

Rexroth
Bosch Group

Nordamerika – North America

USA Hauptniederlassung - Headquarters Bosch Rexroth Corporation Rexroth Indramat Division 5150 Prairie Stone Parkway Hoffman Estates, IL 60192-3707 Tel.: +1 847 6 45 36 00 Fax: +1 847 6 45 62 01 servicebrc@boschrexroth-us.com repairbrc@boschrexroth-us.com	USA Central Region - Mitte Bosch Rexroth Corporation Rexroth Indramat Division Central Region Technical Center 1701 Harmon Road Auburn Hills, MI 48326 Tel.: +1 248 3 93 33 30 Fax: +1 248 3 93 29 06	USA Southeast Region - Südwest Bosch Rexroth Corporation Rexroth Indramat Division Southeastern Technical Center 3625 Swiftwater Park Drive Suwanee, Georgia 30124 Tel.: +1 770 9 32 32 00 Fax: +1 770 9 32 19 03	USA SERVICE-HOTLINE - 7 days x 24hrs - **+1-800-860-1055**
USA East Region –Ost Bosch Rexroth Corporation Rexroth Indramat Division Charlotte Regional Sales Office 14001 South Lakes Drive Charlotte, North Carolina 28273 Tel.: +1 704 5 83 97 62 +1 704 5 83 14 86	USA Northeast Region – Nordost Bosch Rexroth Corporation Rexroth Indramat Division Northeastern Technical Center 99 Rainbow Road East Granby, Connecticut 06026 Tel.: +1 860 8 44 83 77 Fax: +1 860 8 44 85 95	USA West Region – West Bosch Rexroth Corporation 7901 Stoneridge Drive, Suite 220 Pleasant Hill, California 94588 Tel.: +1 925 227 10 84 Fax: +1 925 227 10 81	

Canada East - Kanada Ost
 	
Bosch Rexroth Canada Corporation
Burlington Division
3426 Mainway Drive
Burlington, Ontario
Canada L7M 1A8
 	
Tel.:   +1 905 335 55 11
Fax: +1 905 335-41 84
michael.moro@boschrexroth.ca
	Canada West - Kanada West
	
	Bosch Rexroth Canada Corporation
	5345 Goring St.
	Burnaby, British Columbia
	Canada V7J 1R1
	
	Tel. +1 604 205-5777
	Fax +1 604 205-6944
	david.gunby@boschrexroth.ca
		Mexico
		
		Bosch Rexroth Mexico S.A. de C.V.
		Calle Neptuno 72
		Unidad Ind. Vallejo
		07700 Mexico, D.F.
		
		Tel.: +52 5 754 17 11
		    +52 5 754 36 84
		    +52 5 754 12 60
		Fax: +52 5 754 50 73
		    +52 5 752 59 43
		mariofelipe.hernandez@boschrexroth.com.mx
			Mexico
			
			Bosch Rexroth S.A. de C.V.
			Calle Argentina No 3913
			Fracc. las Torres
			64930 Monterrey, N.L.
			
			Tel.: +52 8 333 88 34...36
			    +52 8 349 80 91...93
			Fax: +52 8 346 78 71
			mario.quiroga@boschrexroth.com.mx

Südamerika – South America

Argentina - Argentinien Bosch Rexroth S.A.I.C. "The Drive & Control Company" Acassusso 48 41/47 1605 Munro Provincia de Buenos Aires Tel.: +54 11 4756 01 40 Fax: +54 11 4756 01 36 victor.jabif@boschrexroth.com.ar	Argentina - Argentinien NAKASE Servicio Tecnico CNC Calle 49, No. 5764/66 B1653AOX Villa Balester Provincia de Buenos Aires Tel.: +54 11 4768 36 43 Fax: +54 11 4768 24 13 nakase@usa.net nakase@nakase.com gerencia@nakase.com (Service)	Brazil - Brasilien Bosch Rexroth Ltda. Av. Tégula, 888 Ponte Alta, Atibaia SP CEP 12942-440 Tel.: +55 11 4414 56 92 +55 11 4414 56 84 Fax sales: +55 11 4414 57 07 Fax serv.: +55 11 4414 56 86 alexandre.wittwer@rexroth.com.br	Brazil - Brasilien Bosch Rexroth Ltda. R. Dr.Humberto Pinheiro Vieira, 100 Distrito Industrial [Caixa Postal 1273] 89220-390 Joinville - SC Tel./Fax: +55 47 473 58 33 Mobil: +55 47 9974 6645 prochnow@zaz.com.br
Columbia - Kolumbien Reflutec de Colombia Ltda. Calle 37 No. 22-31 Santafé de Bogotá, D.C. Colombia Tel.: +57 1 368 82 67 +57 1 368 02 59 Fax: +57 1 268 97 37 reflutec@neutel.com.co reflutec@007mundo.com			

Notes

Rexroth
Bosch Group